

# Reinventing Aging: Baby Boomers and Civic Engagement

*November 28, 2007  
Pasadena*



**Richard Joseph Jackson,  
MD MPH**

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# Nutley NJ

Maps

[Print](#) [Email](#) [Link to this page](#)

Map

Satellite

Hybrid



200 ft  
100 m

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# Schools

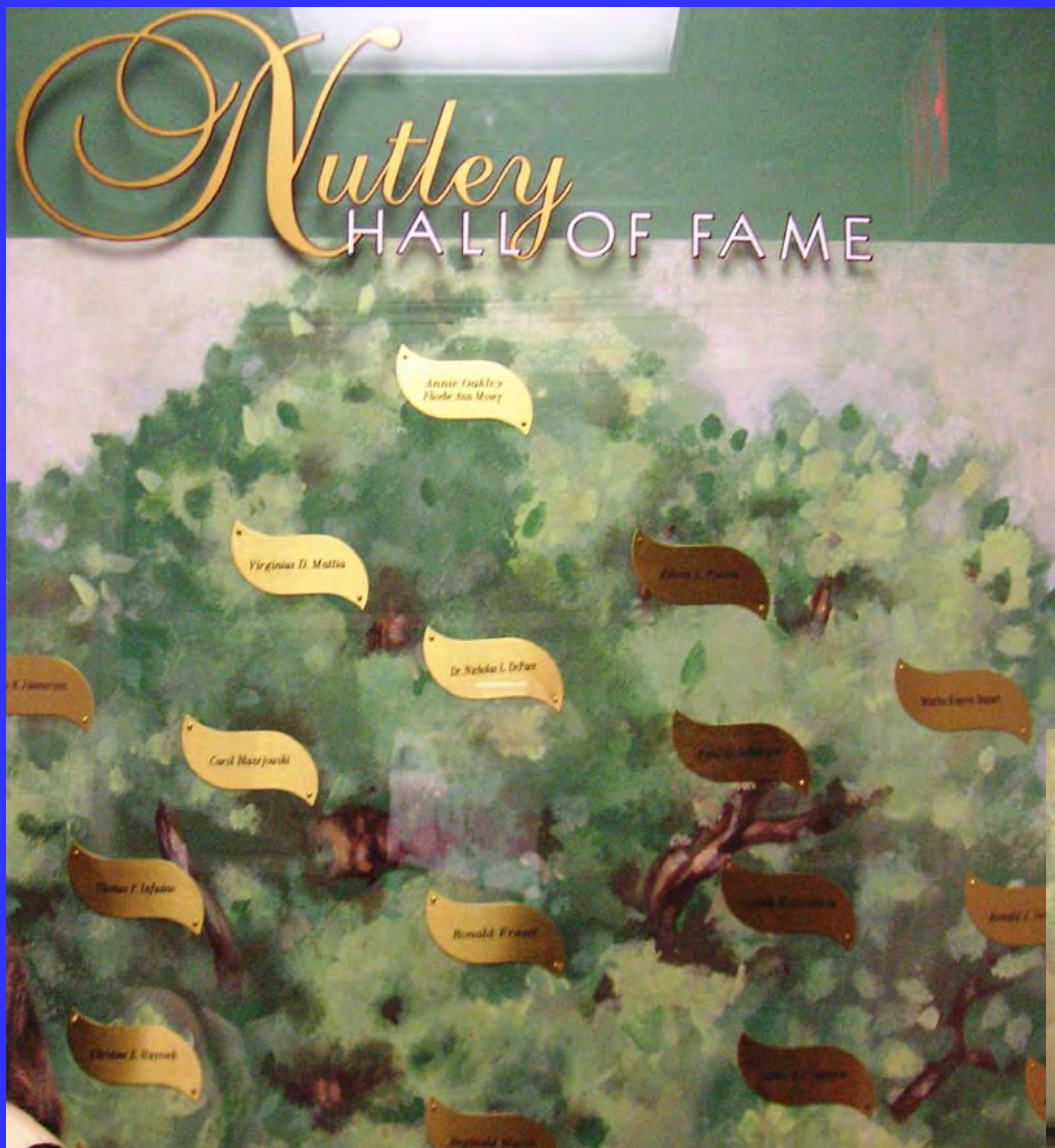














*Richard J. Jackson*

11.20.2005

# The new development



# The Check Up

61 year old man

- -- two grown children
- -- spends 3 to 4 hours a day sitting in a vehicle
- -- complains of “low energy”

# “Problem List”

- No exercise. ...Drives to work 25 miles each way
- 28 pounds overweight
- BP 145/92
- Blood glucose elevated, urine normal
- Cholesterol 270
- Signs of Depression

# “Treatment Plan”

- Meeting with Nutritionist
- Weight loss program
- Exercise club membership
- Pedometer: 10,000 steps a day
- Meeting with psychotherapist or clinical social worker
- Getting more control of work and life commitments

# Insurance Plan Covers

- One meeting with a nutritionist
- Short term outpatient psychotherapy

# Two Months Later...

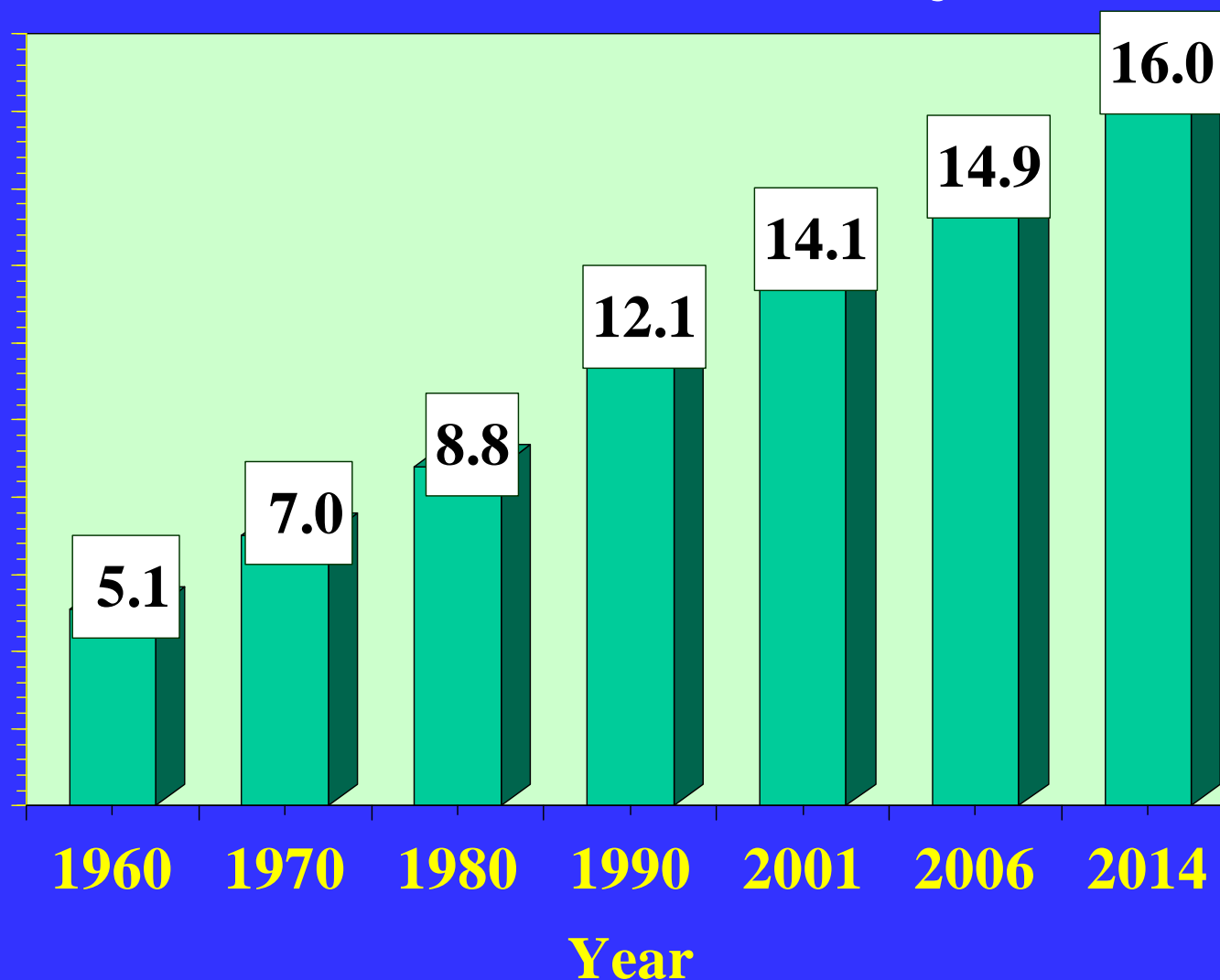
- No place to Walk
- No Time for exercise
- Day is already too full

# 2 months later our California Patient is Taking:

- Antihypertensive medication
- Oral Hypoglycemic agent
- Antidepressant
- Cholesterol lowering agent
- Monthly medication costs:
  - \$385



# US Health Care Expenditures as Percent of GDP Projections



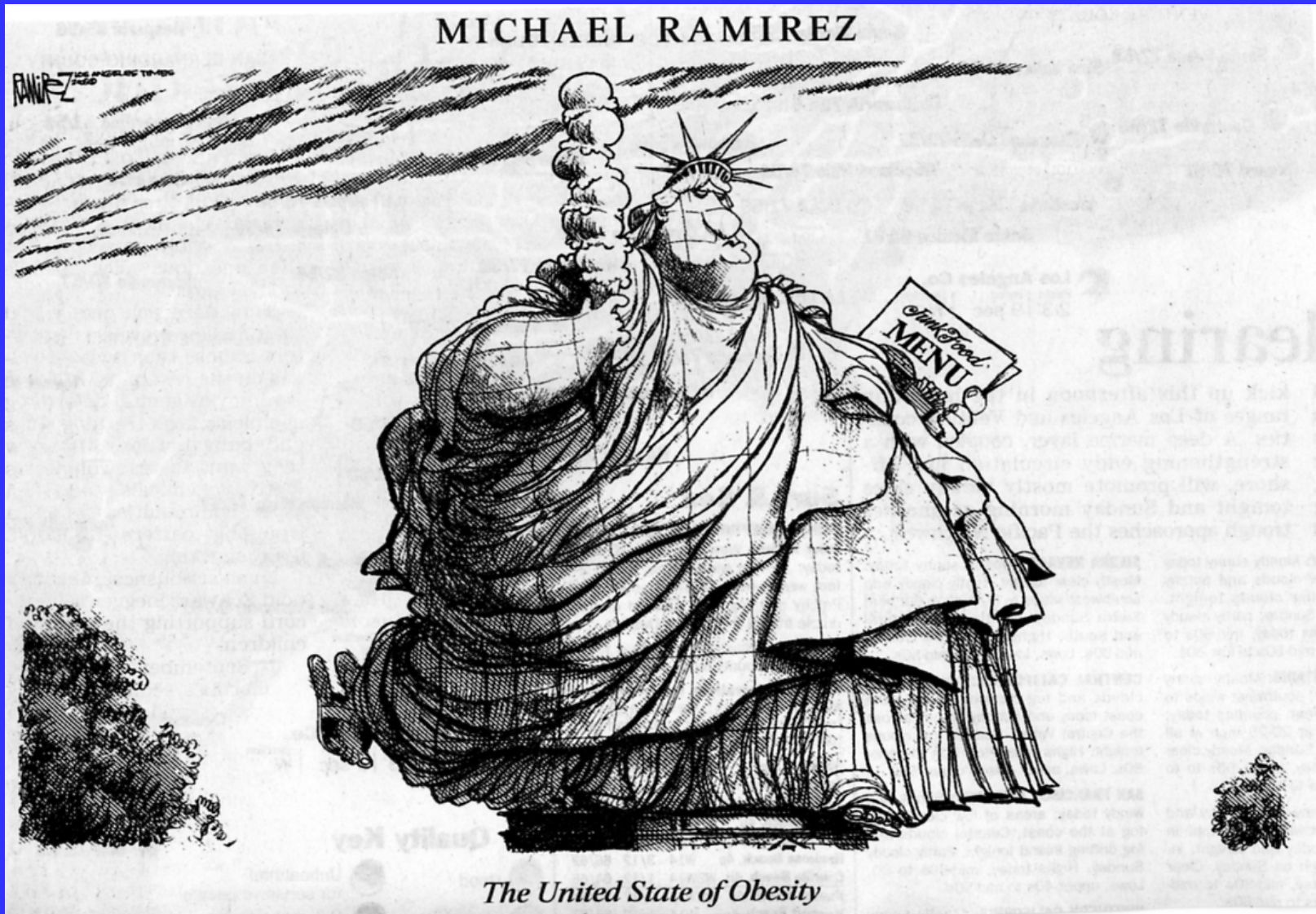
July 6, 1999



# Disease in the 21<sup>st</sup> Century

- Diseases and costs of care for Aging Populations.
- Overweight: Diabetes II, Heart Disease
- Mental Disorders: Depression, Anxiety, Developmental, Substance Abuse
- Macro-environment: Climate, Conflict

90% of Americans believe that Americans .....



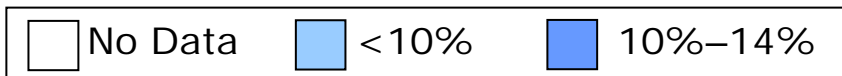
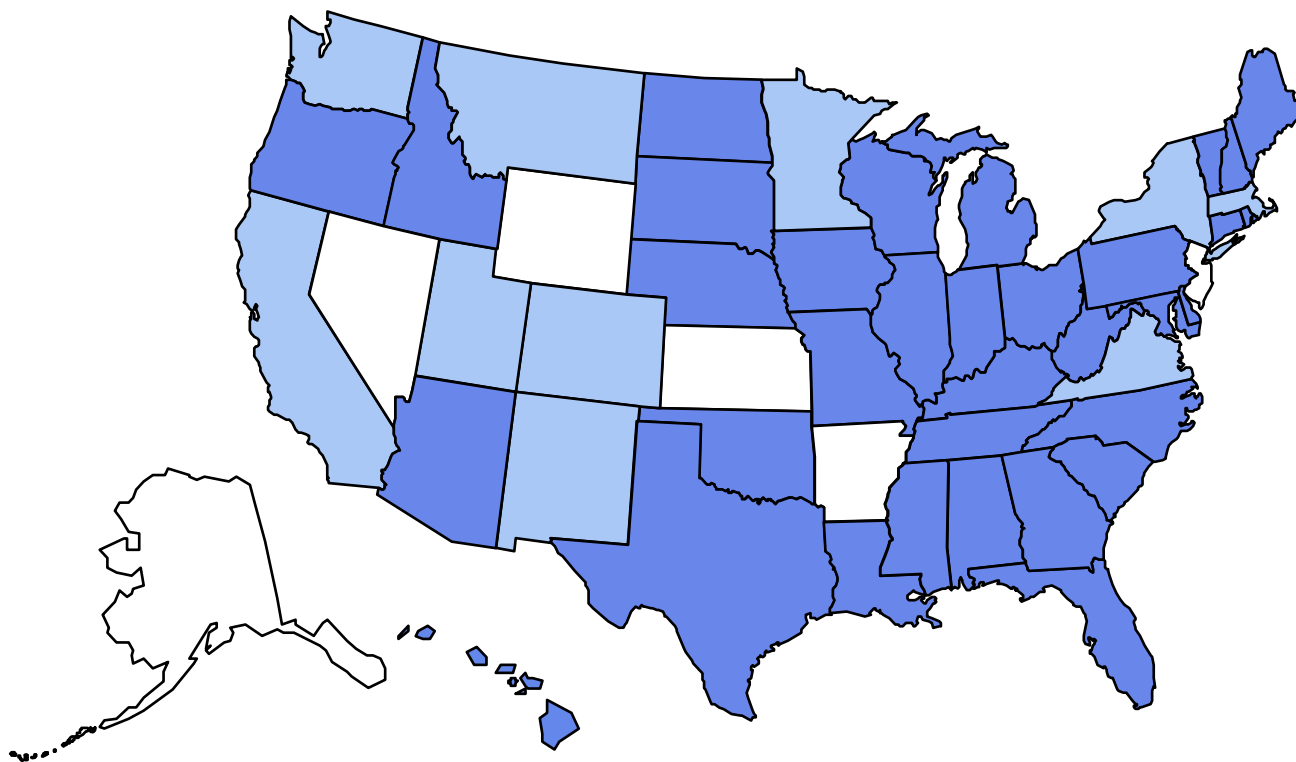
Are Too Fat

Los Angeles Times, 6/6/05

# Obesity Trends\* Among U.S. Adults

**BRFSS, 1990**

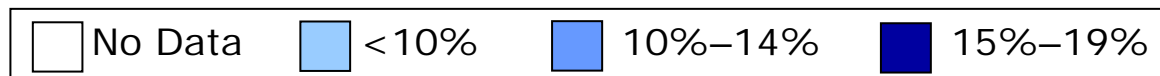
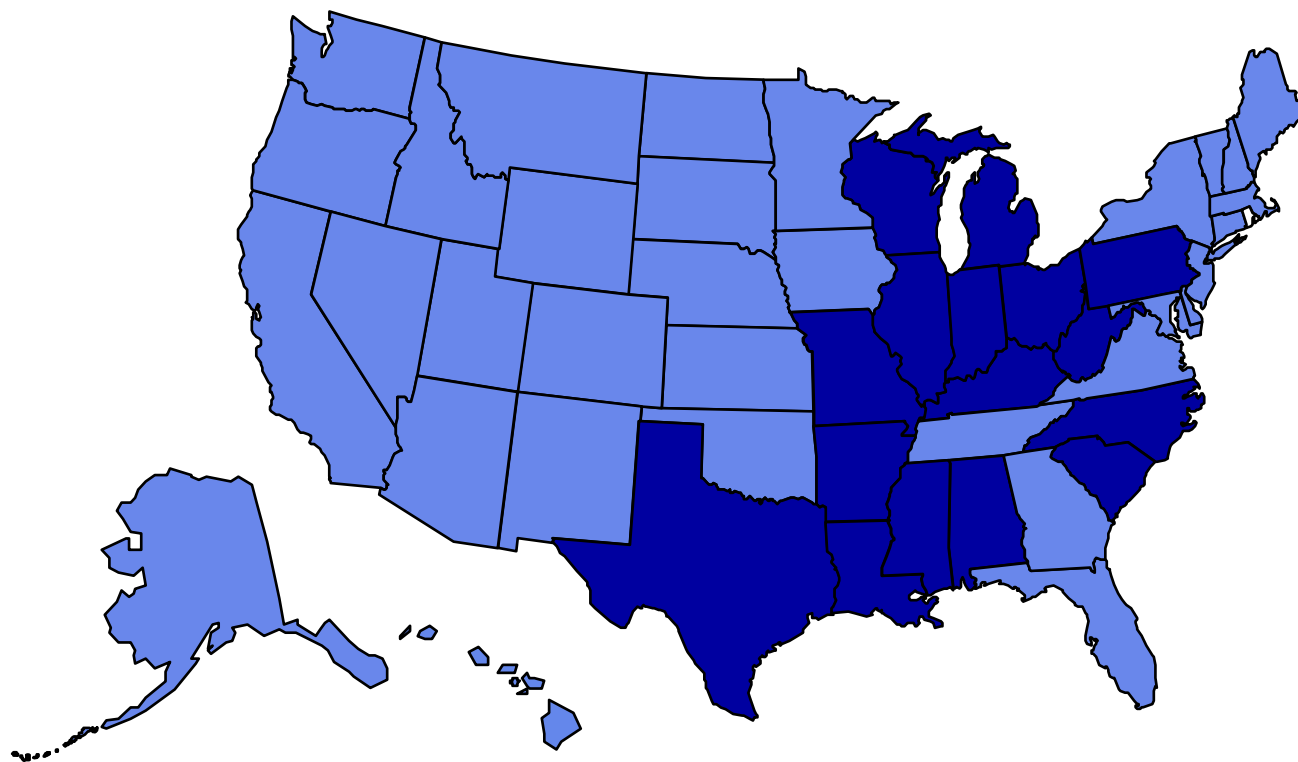
(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5' 4" person)



# Obesity Trends\* Among U.S. Adults

**BRFSS, 1994**

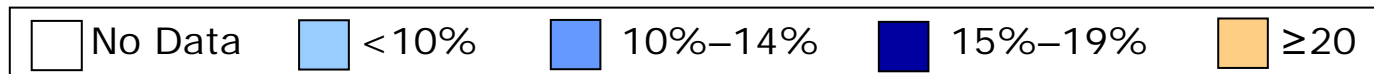
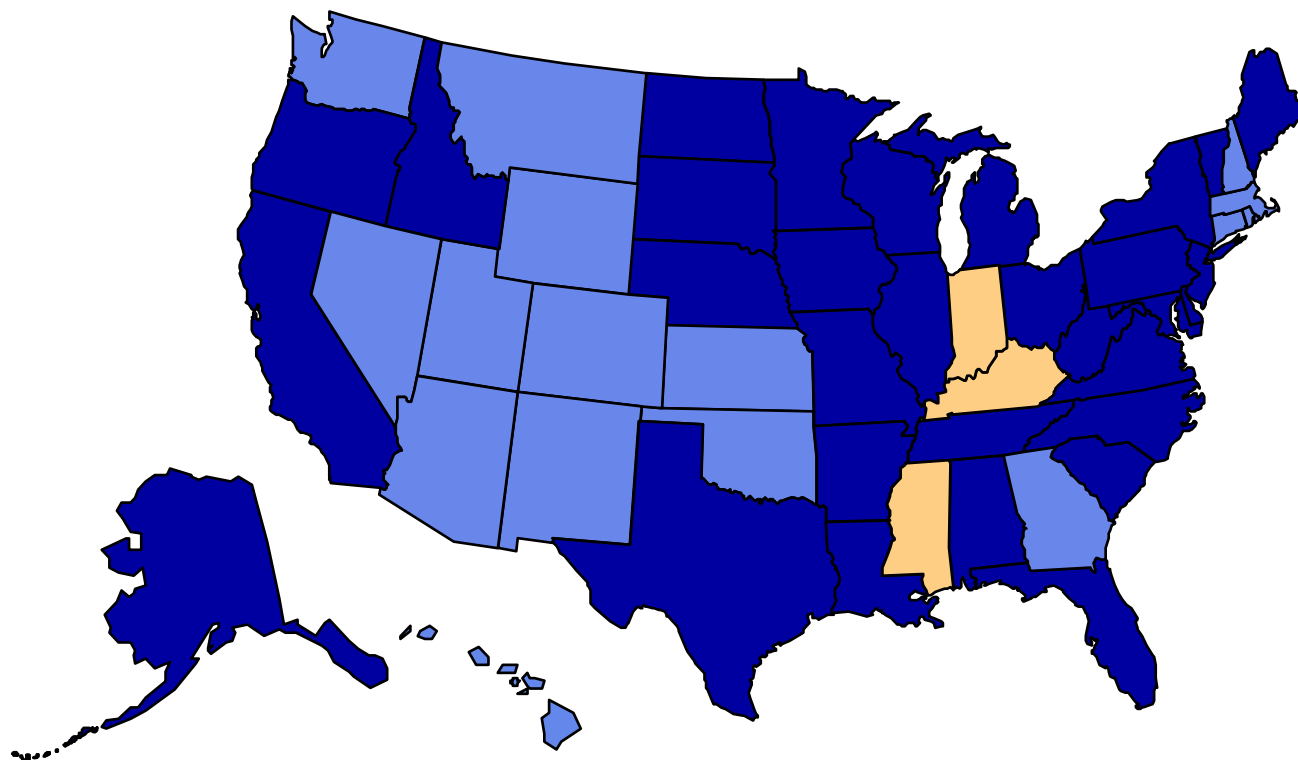
(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5' 4" person)



# Obesity Trends\* Among U.S. Adults

**BRFSS, 1997**

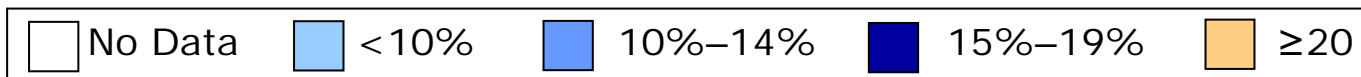
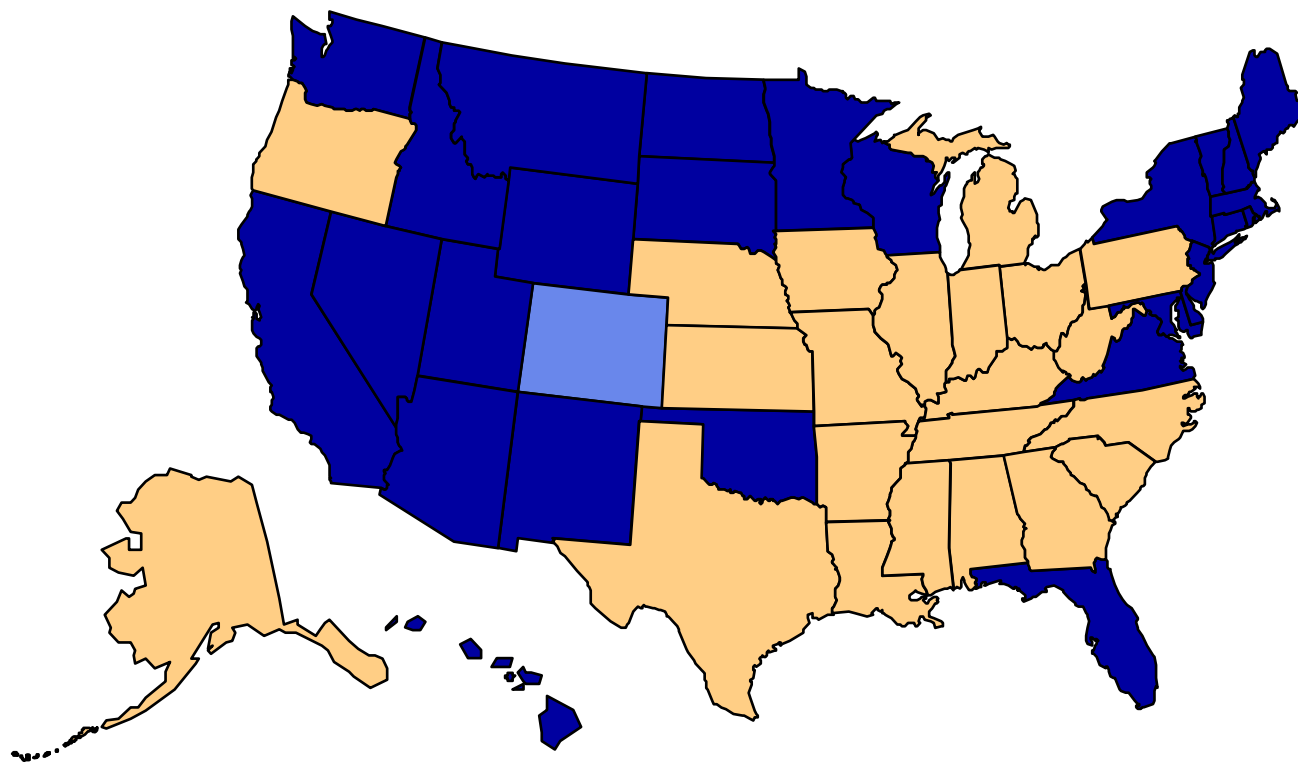
(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5' 4" person)



# Obesity Trends\* Among U.S. Adults

**BRFSS, 2000**

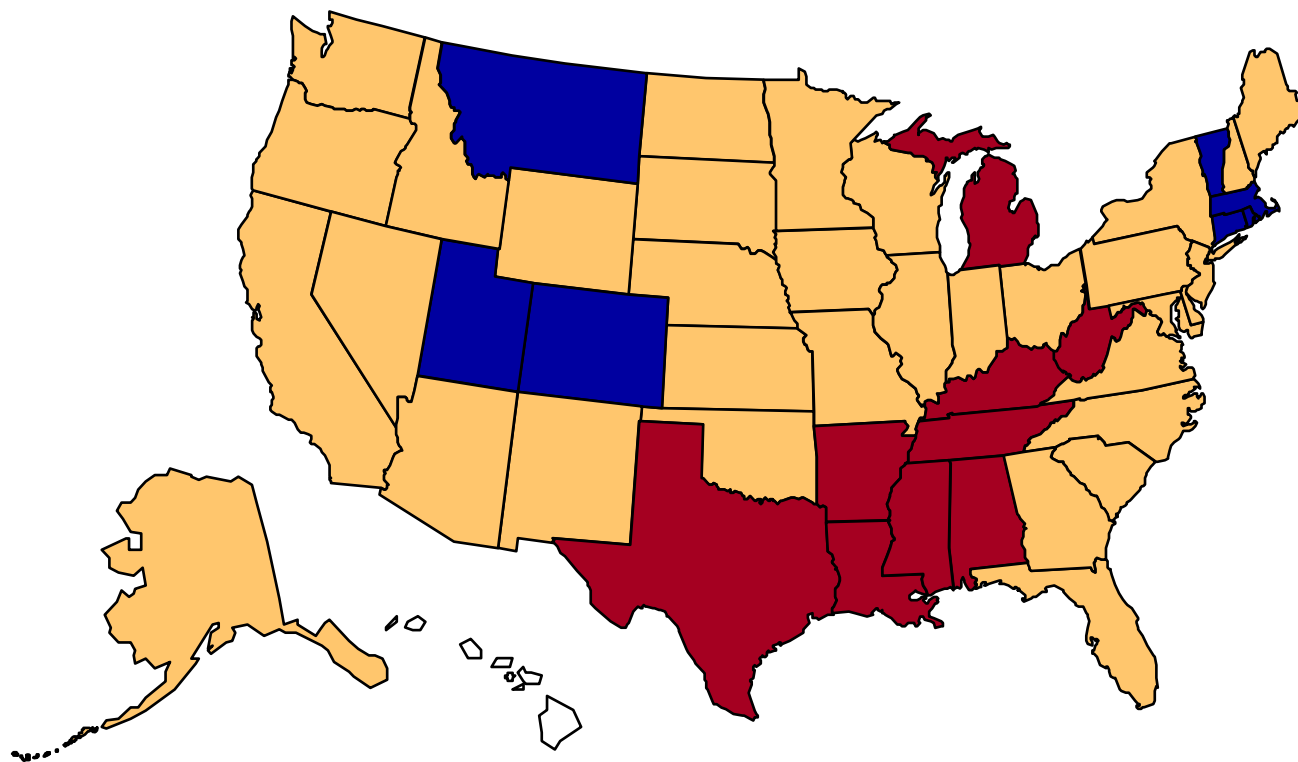
(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5' 4" person)



# Obesity Trends\* Among U.S. Adults

**BRFSS, 2004**

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5' 4" person)



No Data

<10%

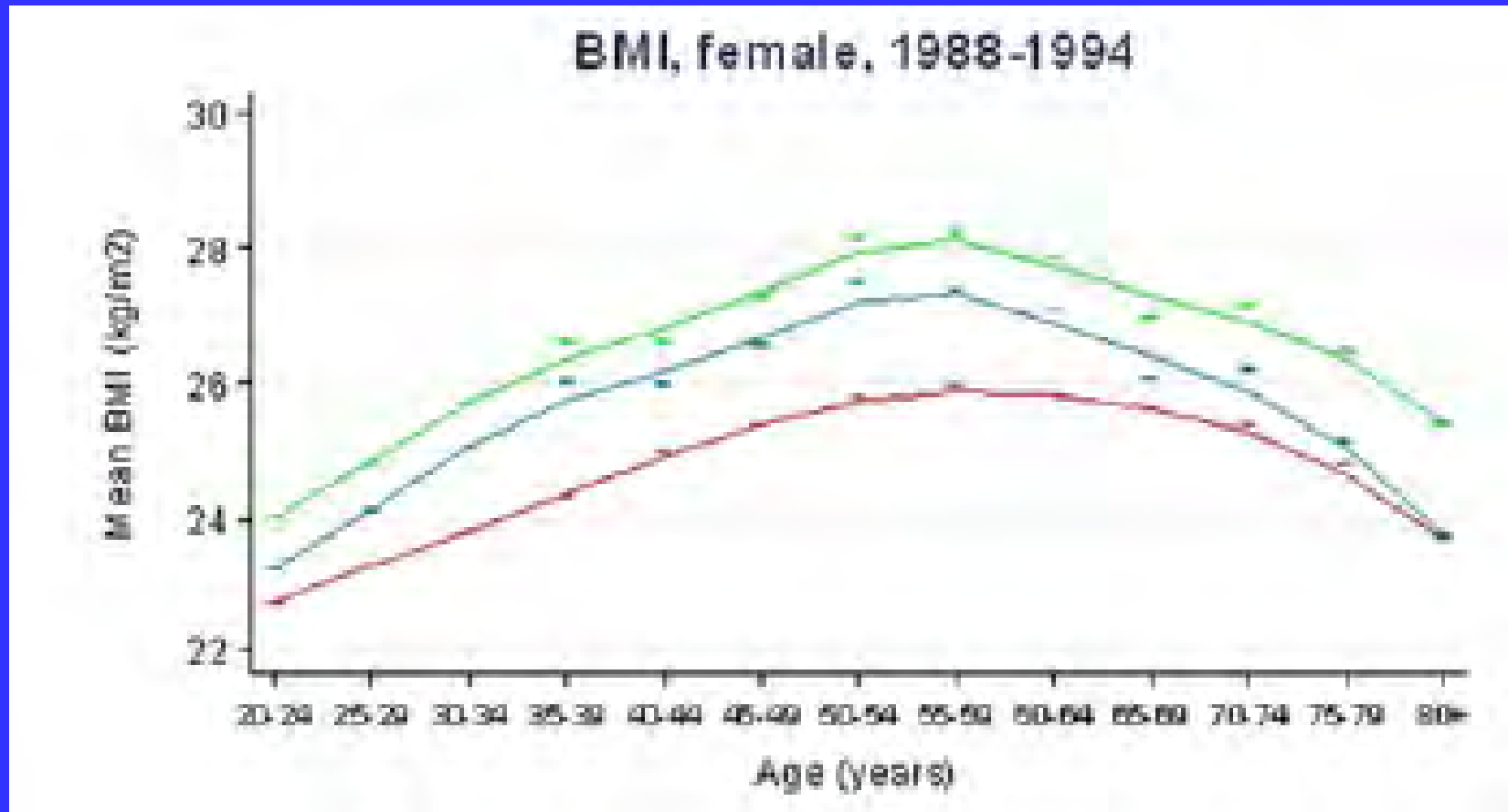
10%–14%

15%–19%

20%–24%

≥25%

# BMI US Females 1988-1994



**NHANES -- Measured**

**NHANES -- In person interview-- self-reported**

**BRESS -- Telephone Interview**

**The Bariatric Unit is built on the Ford E350 Chassis and is considered a Type 3 Ambulance with a strong suspension and shocks.**



**The Phoenix-based Bariatric system uses the Ferno Proflex cot. The Proflex model can handle 650 lbs. in the fully raised position and 900 lbs. when in the down position.**



# Supersizing Jet Fuel Use

- Mean weight gain of Americans in 1990s:  
10 pounds
- Airline distance flown in 2000 in US:  
515 billion passenger-miles
- Weight transported 1 mile by 1 gallon of fuel:  
7.3 tons (passengers or cargo)
- Jet fuel to transport added weight in 2000:  
350 million gallons
- Cost of extra fuel: \$1.1 billion
  - (Oct 2005 prices)
- CO<sub>2</sub> emissions from extra fuel:  
3.8 million tons

Data sources: NCHS; US Dept. of Transportation



[Home](#) | [50 Ways to Improve Your Life in 2007](#)

## Lose Weight, Save Fuel

Posted Sunday, December 17, 2006

As if you needed more incentives to lose weight, here is another. You'll be doing something good for the environment. In a recently published paper, Prof. Sheldon H. Jacobson and a graduate student at the University of Illinois calculated that cars use a billion extra gallons of gasoline a year to transport Americans who have grown markedly fatter. This comes after a similar calculation by the Centers for Disease Control and Prevention that, based on the 10 pounds the average American gained in the 1990s, airlines require 350 million extra gallons of fuel. That translates into an additional 3.8 million tons of carbon dioxide, the main culprit in global warming.

### Related Links

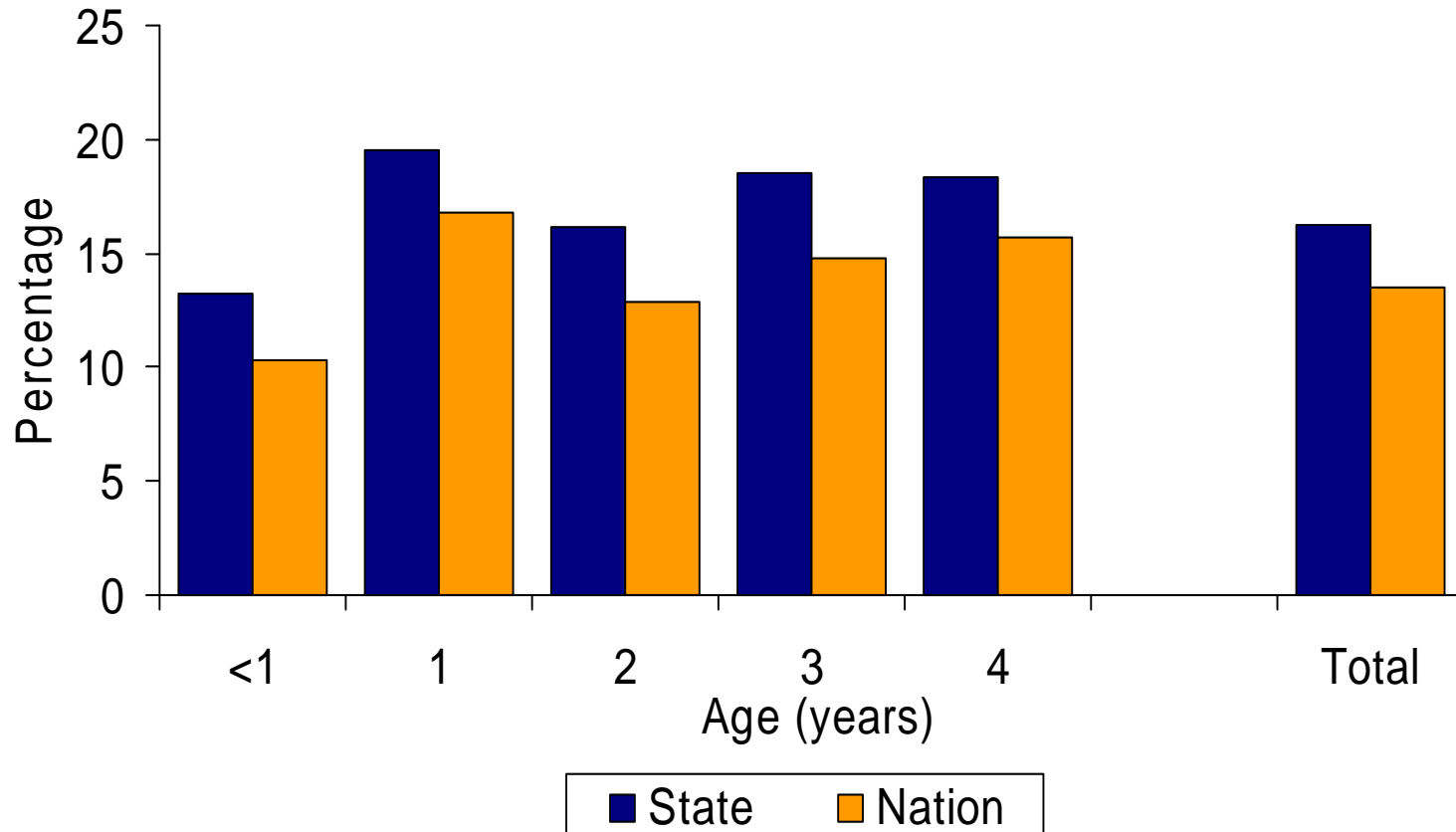
[50 Ways to Improve Your Life in 2007](#)

[More from Best Health](#)

[More from this issue](#)

**And...One billion gallons of gasoline per year in cars**

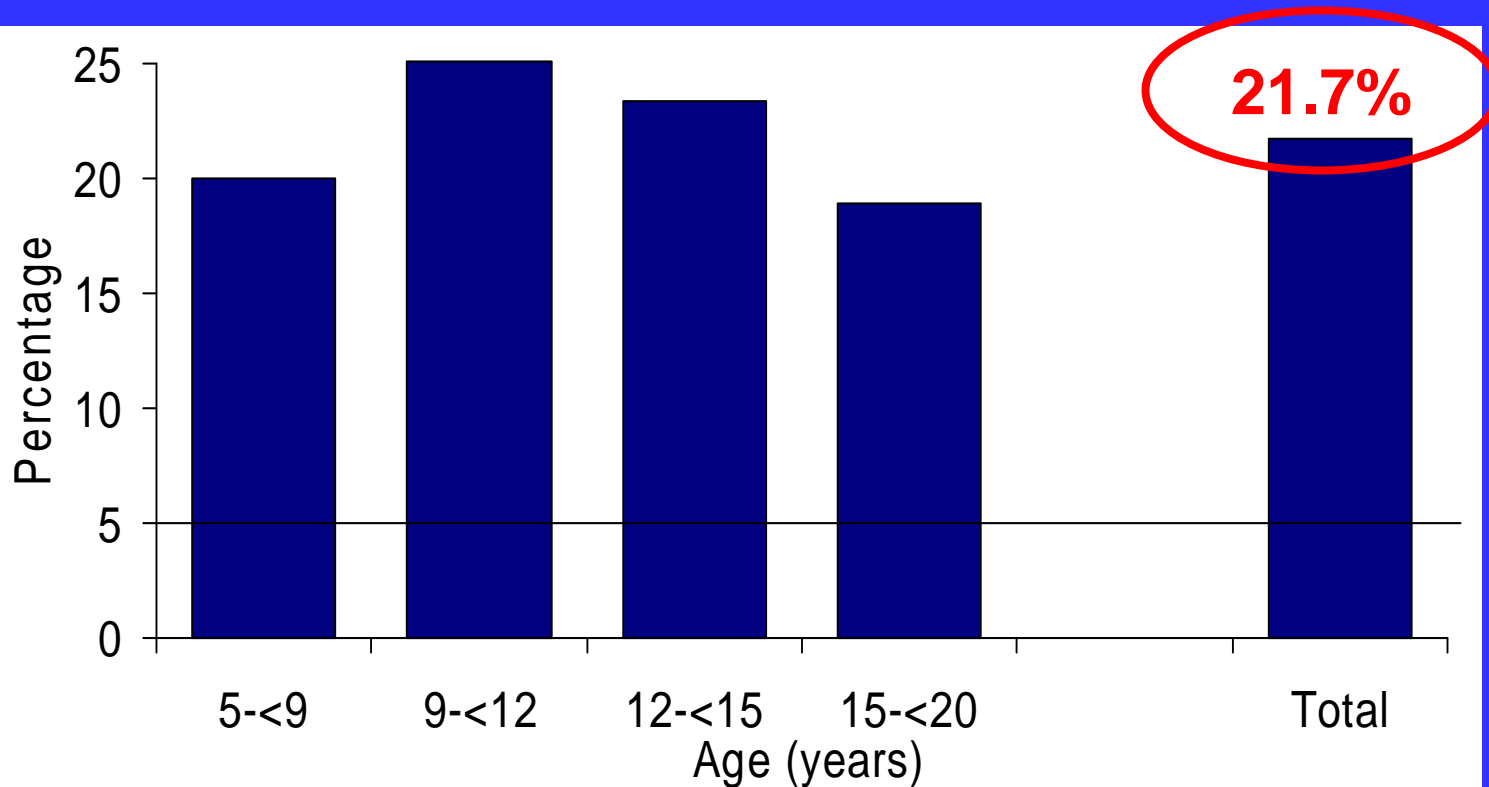
# USA vs. California-Prevalence of overweight\* among children aged <5 years by age



\*  $\geq$  95th percentile weight-for-length or BMI-for-age, CDC Growth Charts, 2000.  
5% of children are expected to fall above the 95th percentile.

# California Prevalence of Overweight\*

## Children aged 5 to 20 years



Year  
2010  
target\*\*

\*  $\geq$  95th percentile BMI-for-age, CDC Growth Charts, 2000.

\*\* Year 2010 target: reduce the proportion of children and adolescents aged 6 to 19 years who are overweight to 5%.



## Leveraging Market Analysis in **Bariatric Surgery**

An audio conference from the publisher of

*Bariatric Medicine Alert, Primary Care Reports and Same-Day Surgery*

An audio conference from the publisher of  
*Bariatric Medicine Alert, Primary Care Reports and Same-Day Surgery*

**Tuesday, February 27, 2007**  
**2:30-3:45 pm EST**

[REGISTER NOW](#)

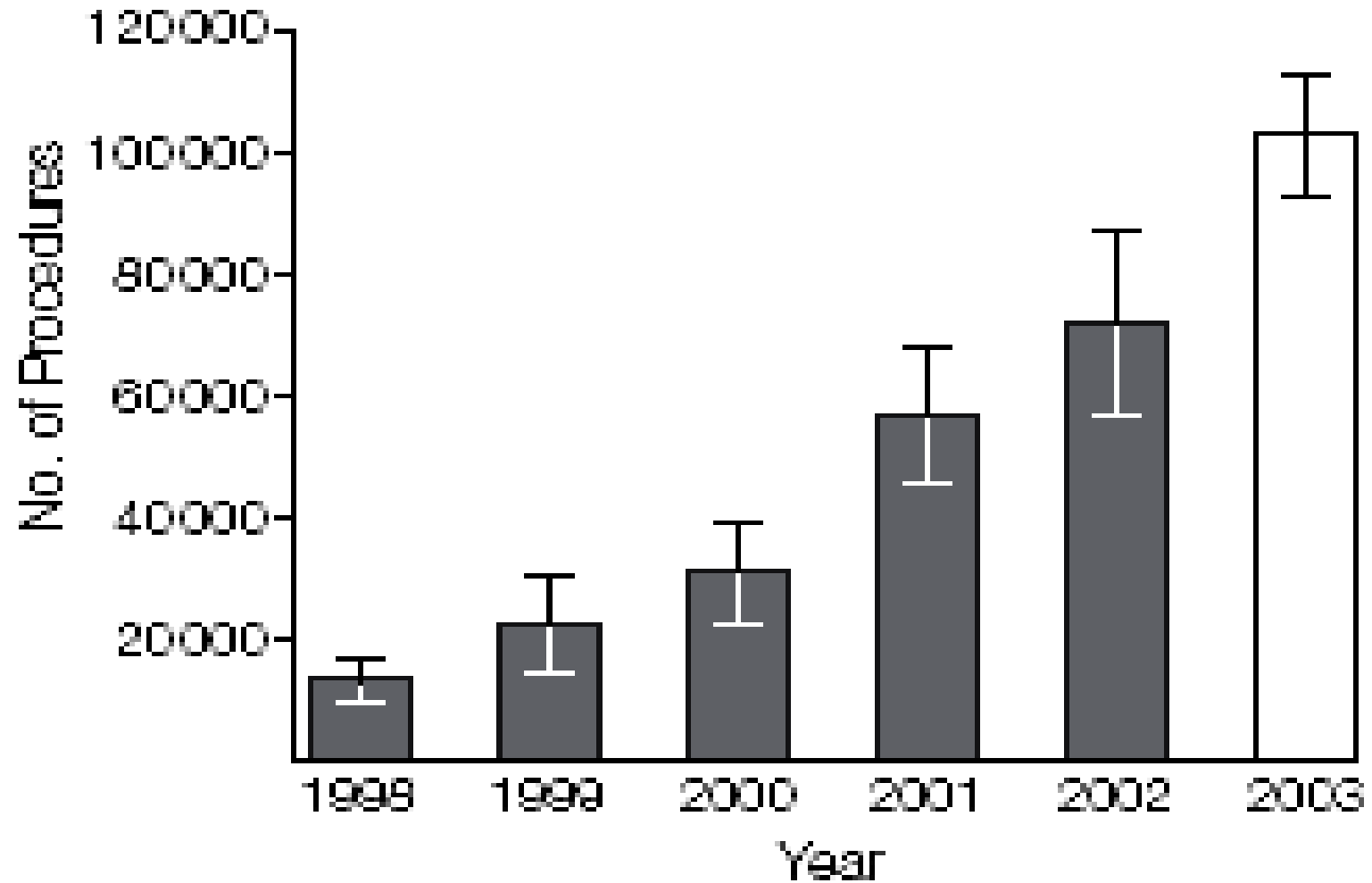
Presenter: Theresa Meany, RN, GI Surgery Line and  
Manager of the Bariatric Program at Danbury Hospital

This audio conference will focus on lessons learned during the transformation of a start-up bariatric program to a Center of Excellence by Danbury Hospital in Danbury, CT.

The number of bariatric surgery procedures performed in the United States is increasing each year. There is no sign of a slowdown in sight.

“...the number of bariatric surgery procedures in 2004 was nine times the number in 1998. ...”

# Bariatric Procedures: Annual Numbers



**JAMA 2005: pp1909-1917**

# DIABETES

It Strikes  
16 Million  
Americans

Are You  
at Risk?

Computer drawing of a human insulin molecule

SOCIETY

## An American Epidemic

# Diabetes

**The silent killer:** Scientific research shows a 'persistent explosion' of cases—especially among those in their prime  
BY JERRY ADLER AND CLAUDIA KALB

**S**OMETHING TERRIBLE WAS HAPPENING TO YOLANDA BENITEZ'S eyes. They were being poisoned; the fragile capillaries of the retina attacked from within and were leaking blood. The first symptoms were red lines, appearing vertically across her field of vision; the lines multiplied and merged into a haze that shut out light entirely. "Her blood vessels inside her eye were popping," says her daughter, Jannette Roman, a Chicago college student. Benitez, who was in her late 40s when the problem began four years ago, was a cleaning woman, but she's had to stop working. After five surgeries, she has regained vision in one eye, but the other is completely useless. A few weeks ago, awakening one night in a hotel bedroom, she walked into a door, setting off a paroxysm of pain and nausea that hasn't let up yet. And what caused this catastrophe was nothing as exotic as pesticides or emerging viruses. What was poisoning Benitez was sugar.

**Diabetes prevalence, by age**

Age Group	1990	1998
18-29	1.0	1.5
30-39	2.0	3.0
40-49	3.0	4.5
50-59	5.0	7.0
60-69	8.0	10.0
70+	10.0	12.0

Source: Centers for Disease Control and Prevention

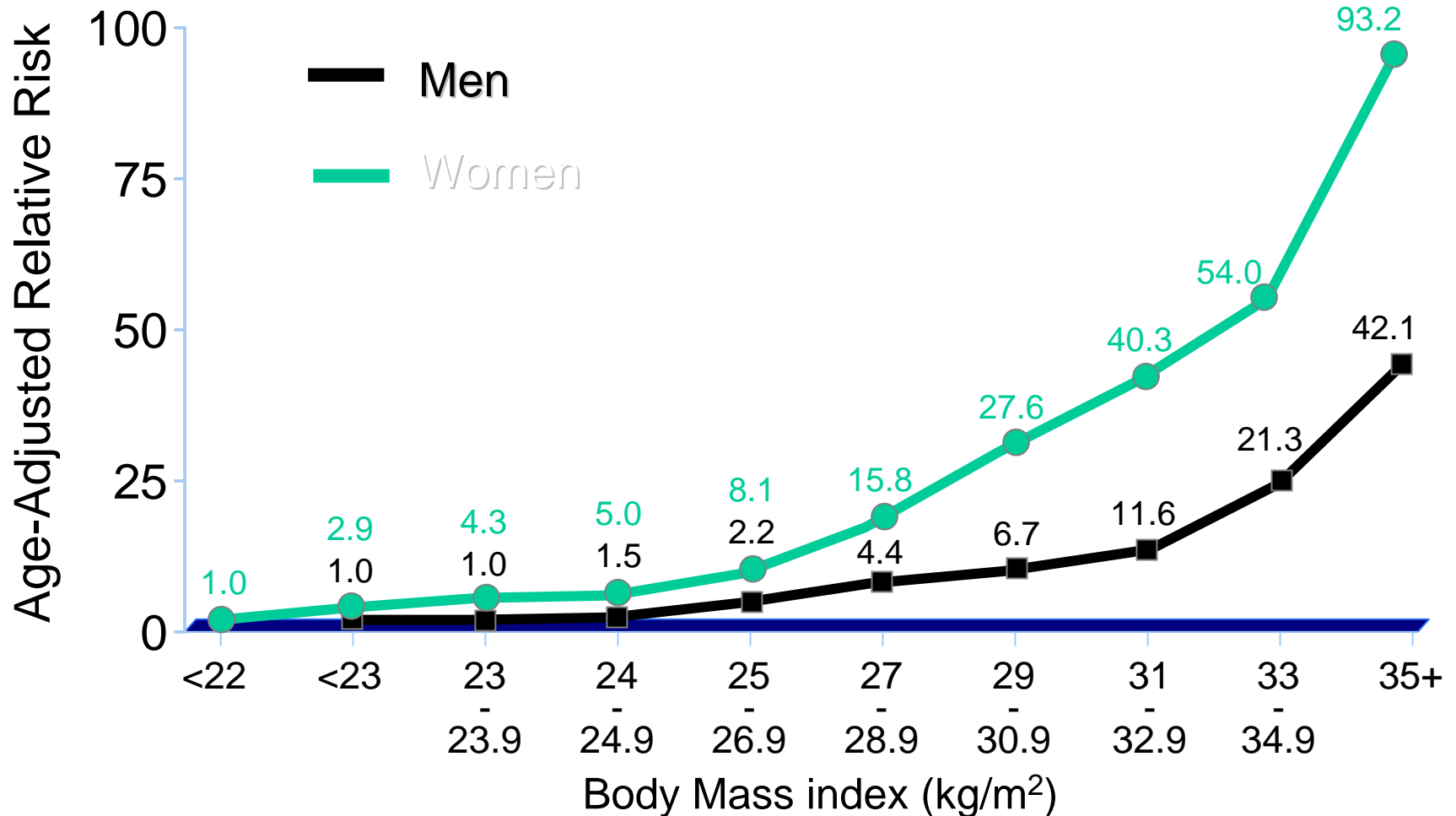
48 NEWSWEEK SEPTEMBER 4, 2000

## Heredity

Genes help determine whether you'll get diabetes. In many families, multiple generations are struck. But heredity is not destiny—especially if you eat well and exercise.

**JERRY ADLER: Benitez (left) and Roman, Benitez's mother and her daughter, died from complications of the disease.**

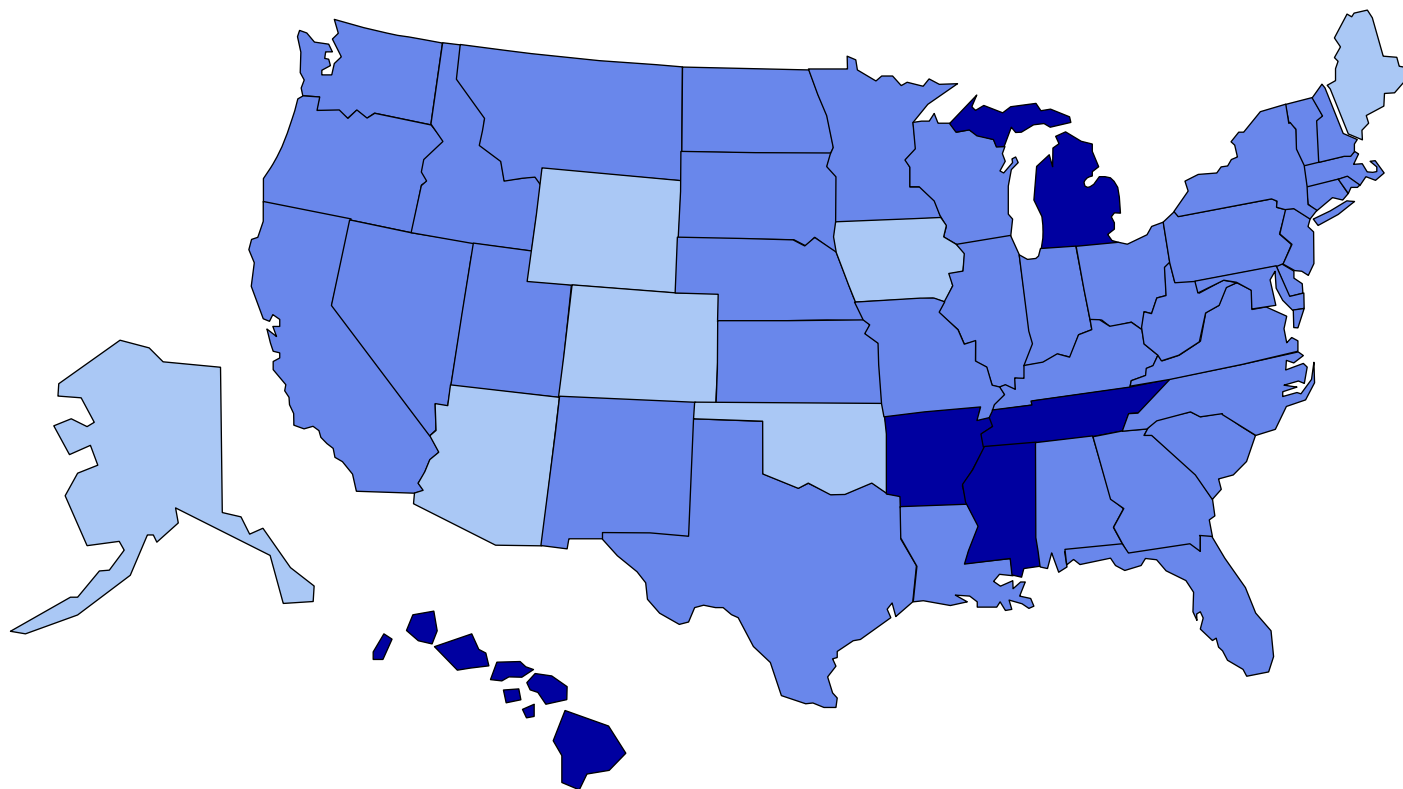
# Relationship Between BMI and Risk of Type 2 Diabetes



Chan J et al. *Diabetes Care* 1994;17:961.

Colditz G et al. *Ann Intern Med* 1995;122:481.

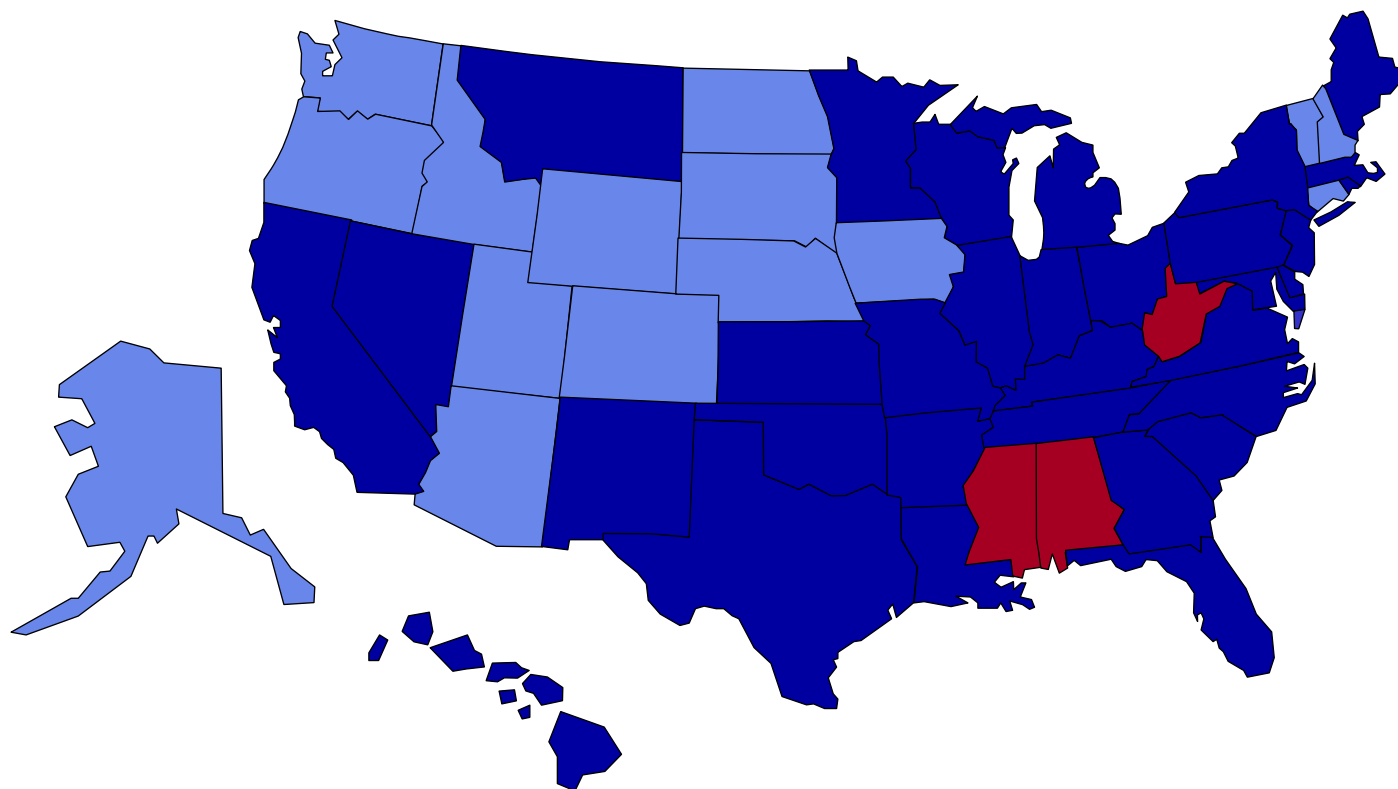
# Diabetes and Gestational Diabetes Trends Among Adults in the U.S., BRFSS 1993-94



No Data  <4%  4%-6%  6%-8%  8%-10%  >10%

Mokdad AH, Ford ES, Bowman BA, et al. Prevalence of obesity, diabetes, and other obesity-related health risk factors, 2001. JAMA 2003 Jan 1;289(1).

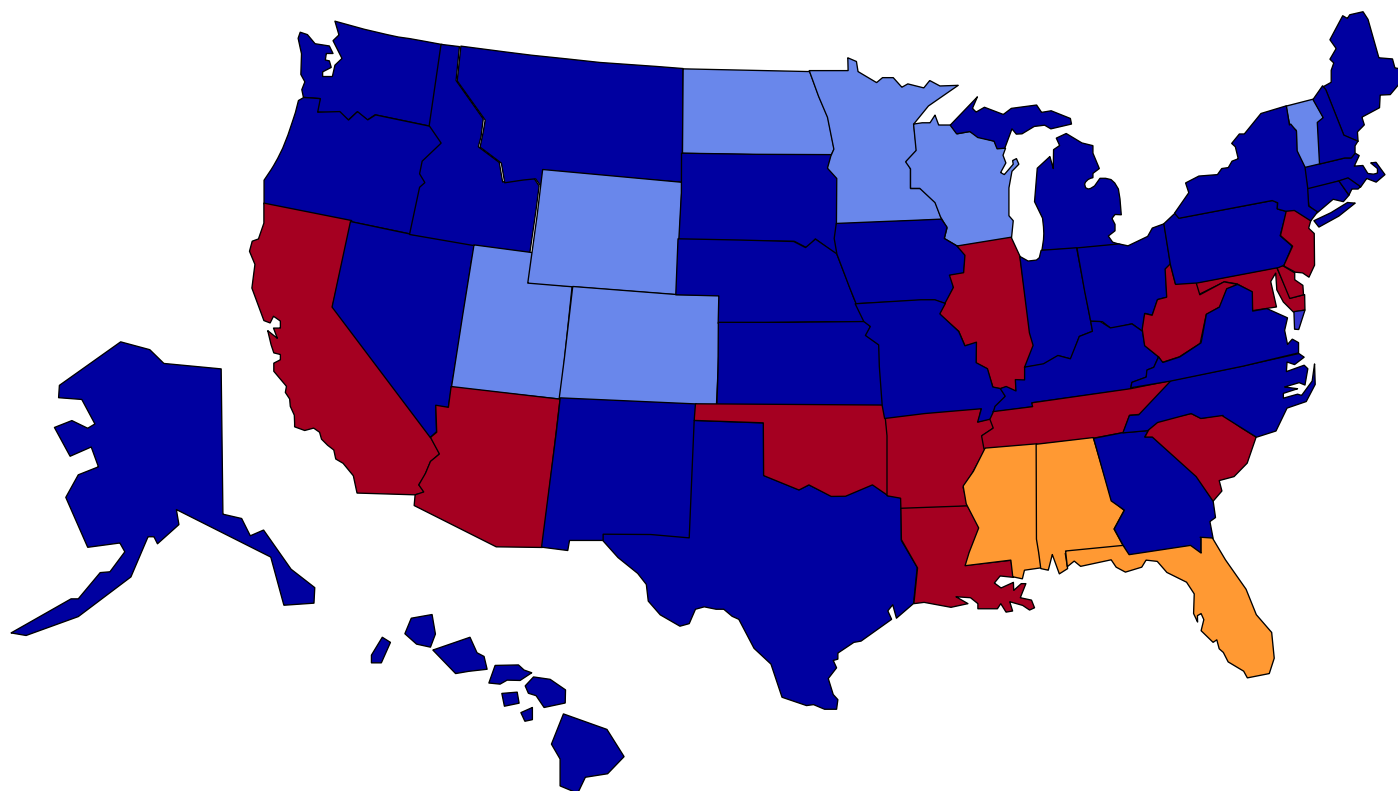
# Diabetes and Gestational Diabetes Trends Among Adults in the U.S., BRFSS 1999



No Data ☐ <4% ☐ 4%-6% ☐ 6%-8% ☐ 8%-10% ☐ >10%

Mokdad AH, Ford ES, Bowman BA, et al. Prevalence of obesity, diabetes, and other obesity-related health risk factors, 2001. JAMA 2003 Jan 1;289(1).

# Diabetes and Gestational Diabetes Trends Among Adults in the U.S., BRFSS 2001



No Data ☐ <4% ☐ 4%-6% ☐ 6%-8% ☐ 8%-10% ☐ >10%

Mokdad AH, Ford ES, Bowman BA, et al. Prevalence of obesity, diabetes, and other obesity-related health risk factors, 2001. JAMA 2003 Jan 1;289(1).

# Diabetes Projected Risks: For Babies Born in 2000

Girls: 38% lifetime risk

- If diabetic before age 40, Lifespan shortened by 14 years (Quality of life by 19 years)

Boys: 33% lifetime risk

If diabetic before age 40, Lifespan shortened by 12 years. (Quality of life by 22 years)

V Narayan et al: JAMA 8 Oct 2003

The Atlanta Journal-Constitution / Sunday, June 15, 2003

## CDC: Diabetes to afflict 1 in 3 born in 2000

Scientist says  
kids must  
eat healthier,  
exercise more

By JANET McCONAUGHEY  
Associated Press

**New Orleans** — One in three U.S. children born in 2000 will become diabetic unless many more people start eating less and exercising more, a scientist with the Centers for Disease Control and Prevention warned Saturday.

The odds are worse for African-American and Latino children: Nearly half of them are likely to develop the disease, said Dr. K.M. Venkat Narayan, a diabetes epidemiologist at the CDC.

"I think the fact that the diabetes epidemic has been raging has been well-known to us for several years. But looking at the risk in these terms was very shocking to us," Narayan said.

The 33 percent lifetime risk is about triple the American Diabetes Association's current estimate.

by 2050, to 29 million, an earlier CDC study by Narayan and others found.

"These estimates I am giving you now are probably quite conservative," Narayan said in an interview before the diabetes association's annual scientific meeting here.

Narayan said it would be difficult to say whether undiagnosed cases would rise at the same rate.

If they did, that could push the 2050 figure to 40 million or more.

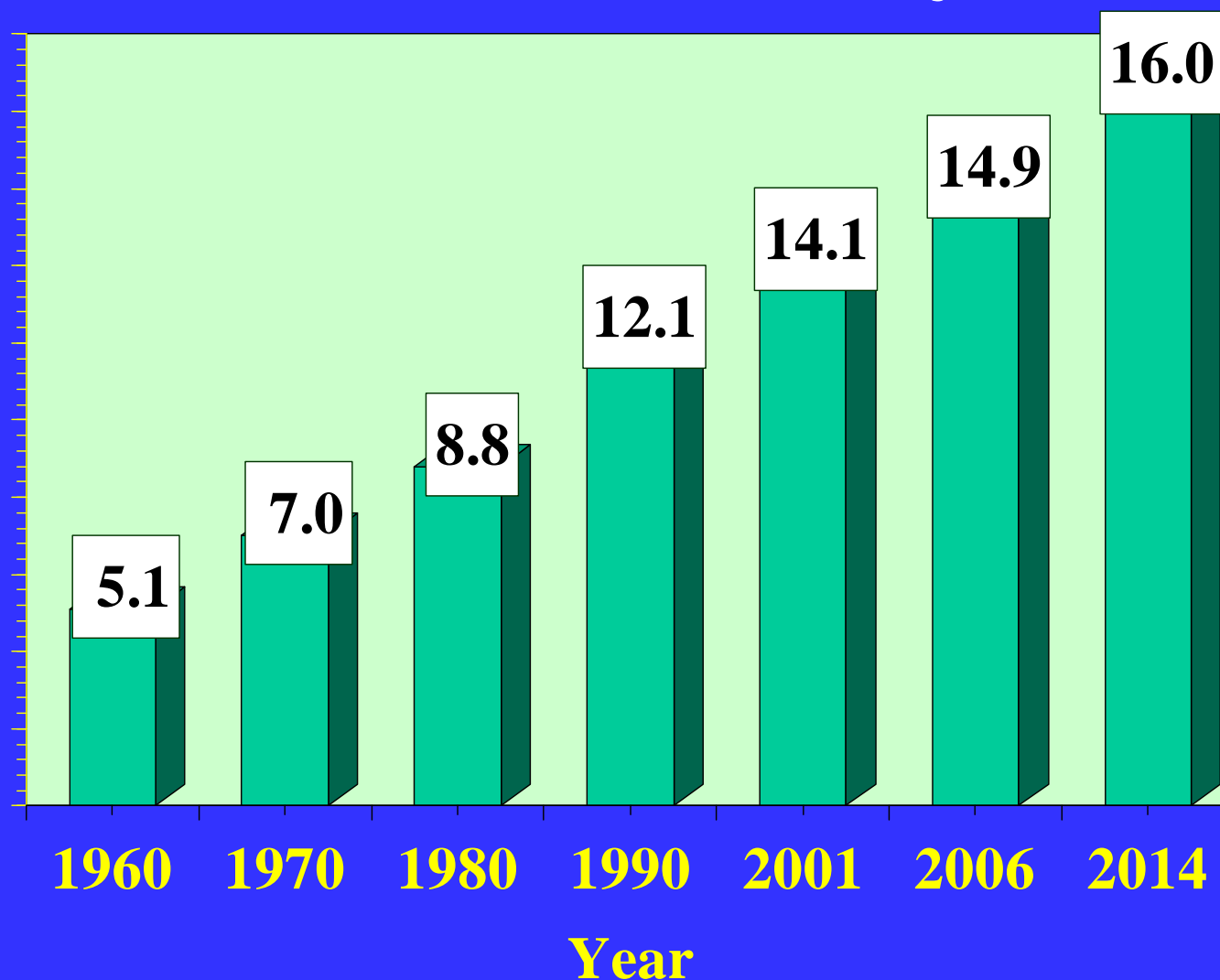
Doctors had known for some time that Type 2 diabetes — what used to be called adult-onset diabetes because it typically showed up in middle-aged people — is on the rise, and that patients are getting younger.

Nobody else had crunched the numbers to look at current odds of getting the disease, Narayan said.

Overall, he said, 39 percent of the girls who now are healthy 2½- to 3-year-olds and 33 percent of the boys are likely to develop diabetes, he said.

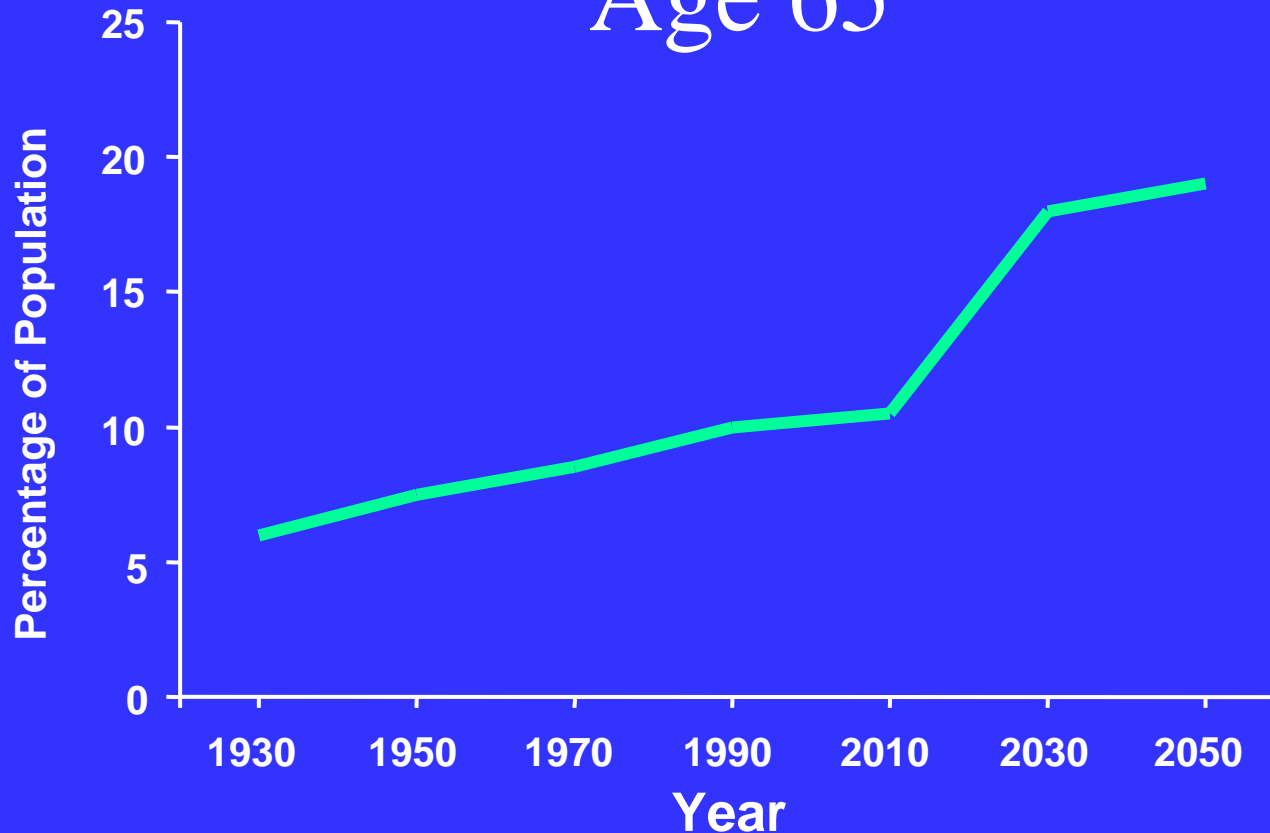
For Latino children, the odds are closer to one in two: 53 percent of the girls and 45 percent of the boys. The numbers are about 49 percent and 40 percent for African-American girls

# US Health Care Expenditures as Percent of GDP Projections



# An Aging Population

## Percentage of U.S. Population over Age 65



Source: From Baby Boom to Elder Boom: Providing Health Care for an Aging Population  
Copyright 1996, Watson Wyatt Worldwide.

- “Even under the most optimistic estimates, 30 years of the increased life expectancy achieved between the 1890s and 1990s, only (??) years can be attributed to medical care.”

Bunker cited in *Prescription for a Healthy Nation*

Farley and Cohn 2004

- “Even under the most optimistic estimates, 30 years of the increased life expectancy achieved between the 1890s and 1990s, only 5 years can be attributed to medical care.”

Bunker cited in *Prescription for a Healthy Nation*

Farley and Cohn 2004

Too Many Calories?

# Supersizing of the Food We Eat



**Hardee's introduces  
new  
Mega-Calorie  
“Monster  
Thickburger”**

- **1,420 calories**
- **107 grams of fat**
- **7.1 hours of  
moderate  
walking**

# Density of Fast Food Restaurants

- Predominantly black/  
low income  
neighborhoods:

2.4 restaurants/sq. mile

- Predominantly white  
neighborhoods:

1.5 restaurants/sq. mile

American Journal of Preventive Medicine,  
October 2004



# “Supersizing” a fast-food meal– A Bargain?

- Paying 67 cents to supersize an order — 73% more calories for only 17% more money
- A Bargain!

# “Supersizing” a fast-food meal – the real costs

- Paying 67 cents to supersize an order — 73% more calories for 17% more money
- — adds an average of 36 grams of adipose tissue.
- The future medical costs for that “bargain” would be \$6.64 for an obese man and \$3.46 for an obese woman.



**Jack C, Age 10 Marin County April 8, 2007**



“I gave up High  
Fructose Corn  
Sugar for Lent”

**Jack C, Age 10 Marin County April 8, 2007**

I searched the  
whole 7-11  
store and the  
only thing I  
could eat was...



- Sweet Tarts



ONE 20 oz SODA per day

- *17 teaspoons of SUGAR*
- *250 calories*
- *40 minutes of hard basketball*

# High Fructose Corn Sugar

- US annual per capita consumption of HFCS
- 63 pounds

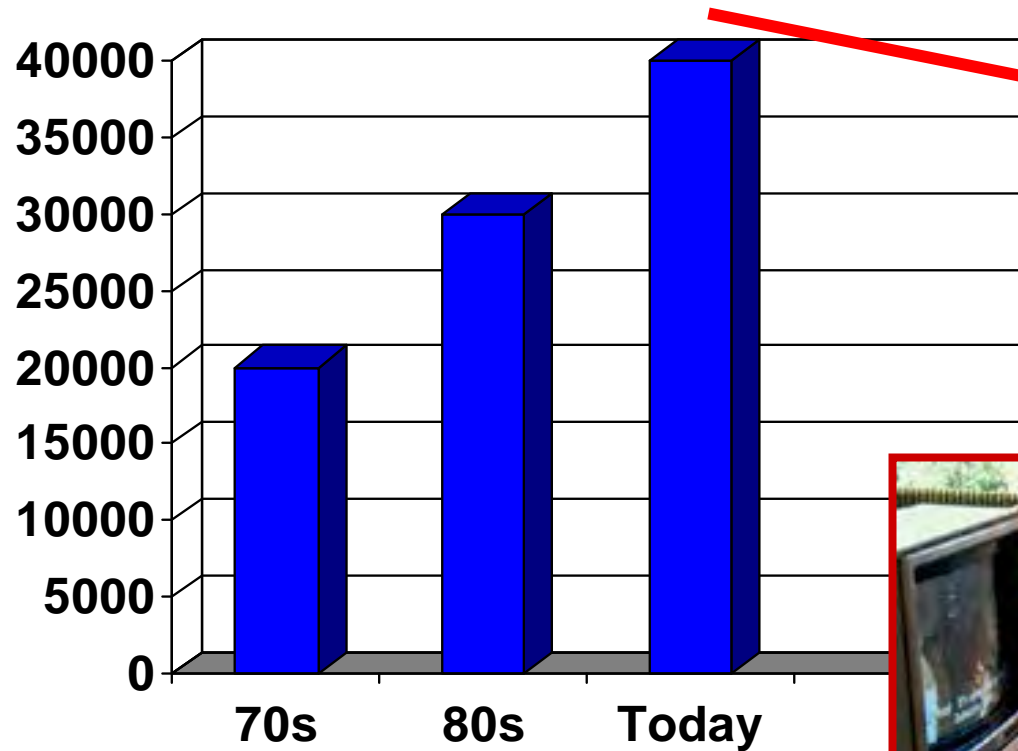


# High Fructose Corn Sugar

- US annual per capita consumption of HFCS
- 63 pounds
- 114,545 calories
  - Can convert to 28 pounds of body fat
- You Can Burn this Off !
  - with 318 hours of Intense Exercise



# Supersizing Advertising :Number of TV Ads Seen By Children



**40,000 per year**





# Schools

- Since World War II
  - Number of Schools declined 70%
  - Average School Size
    - grew fivefold, from 127 to 653 students



# We have changed how much we walk or bike

- Percent of children who walk or bike to school:

- 1974: **66%**

- 2000: **13%**

(CDC, 2000)



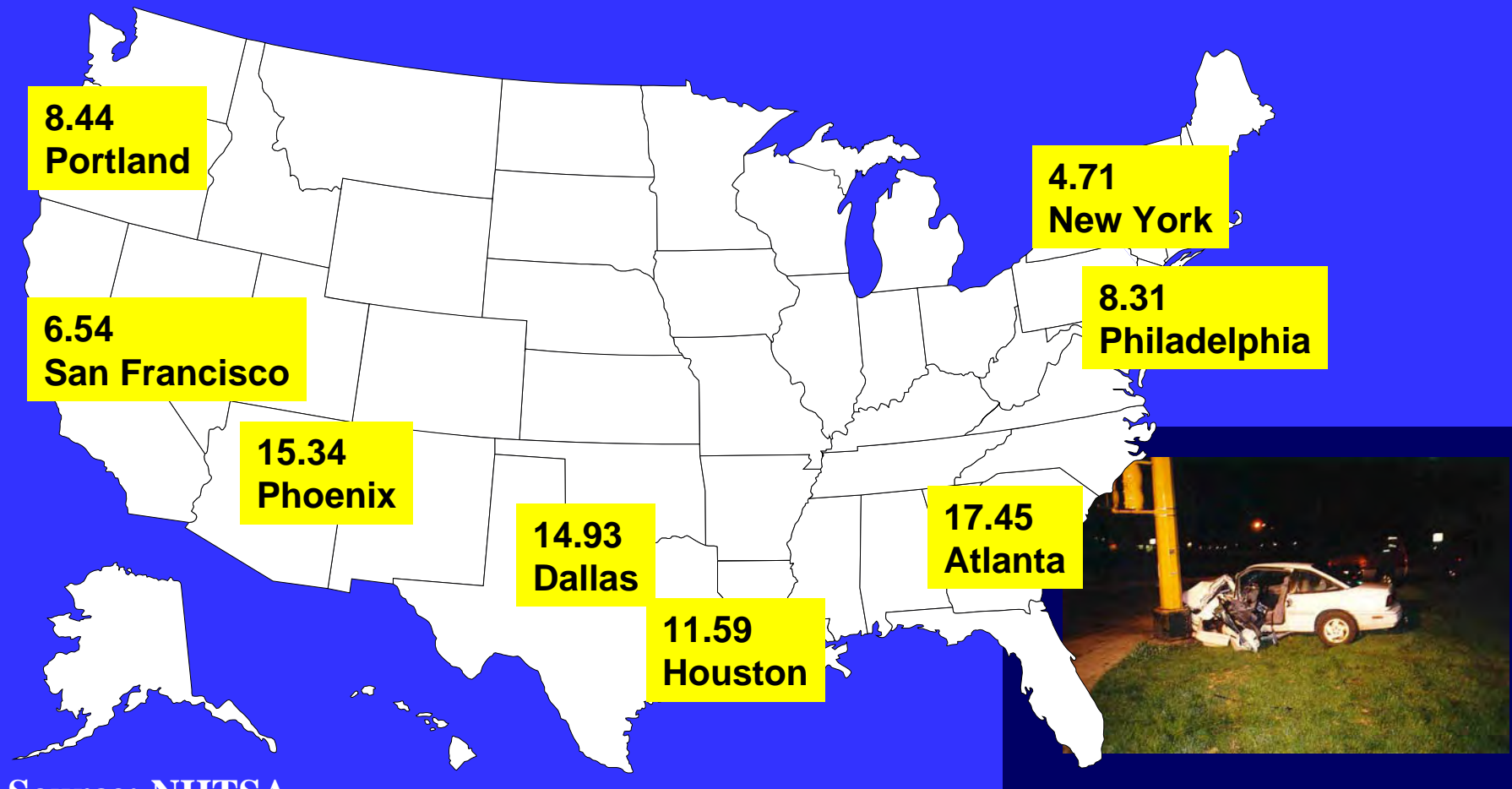
# Microsized Fitness of California's Children

## Annual California Fitnessgram

- **Conducted in Grades 5, 7, and 9**
- **Measures 6 major fitness areas**  
(e.g. aerobic capacity, body composition, flexibility)
- **2004 Results: Who passed all standards?**
  - 25% → Grade 5**
  - 29% → Grade 7**
  - 26% → Grade 9**

# Average Automobile Fatality Rates by City, 1996-2004

(deaths/100,000/year)



Source: NHTSA



# The National "Never Walk" Campaign

11 Strategies  
With Thanks to Howard Frumkin

Strategy #1:

Don't Build Sidewalks



**HIGHWAY**  
**STORAGE**  
**CASH**  
**ERICA**  
**TAWN**

**PAYDAY**  
**LOANS**



Strategy #2:

Build Repellant Sidewalks



Strategy #3:

Allow Sidewalks to Disintegrate



Strategy #4:

Build Treacherous Sidewalks



•IN-SCHOOL TRAINING  
•EVENING PUPPY CLASSES  
•TRAINING BY BOB MOOREFIELD  
874-5224

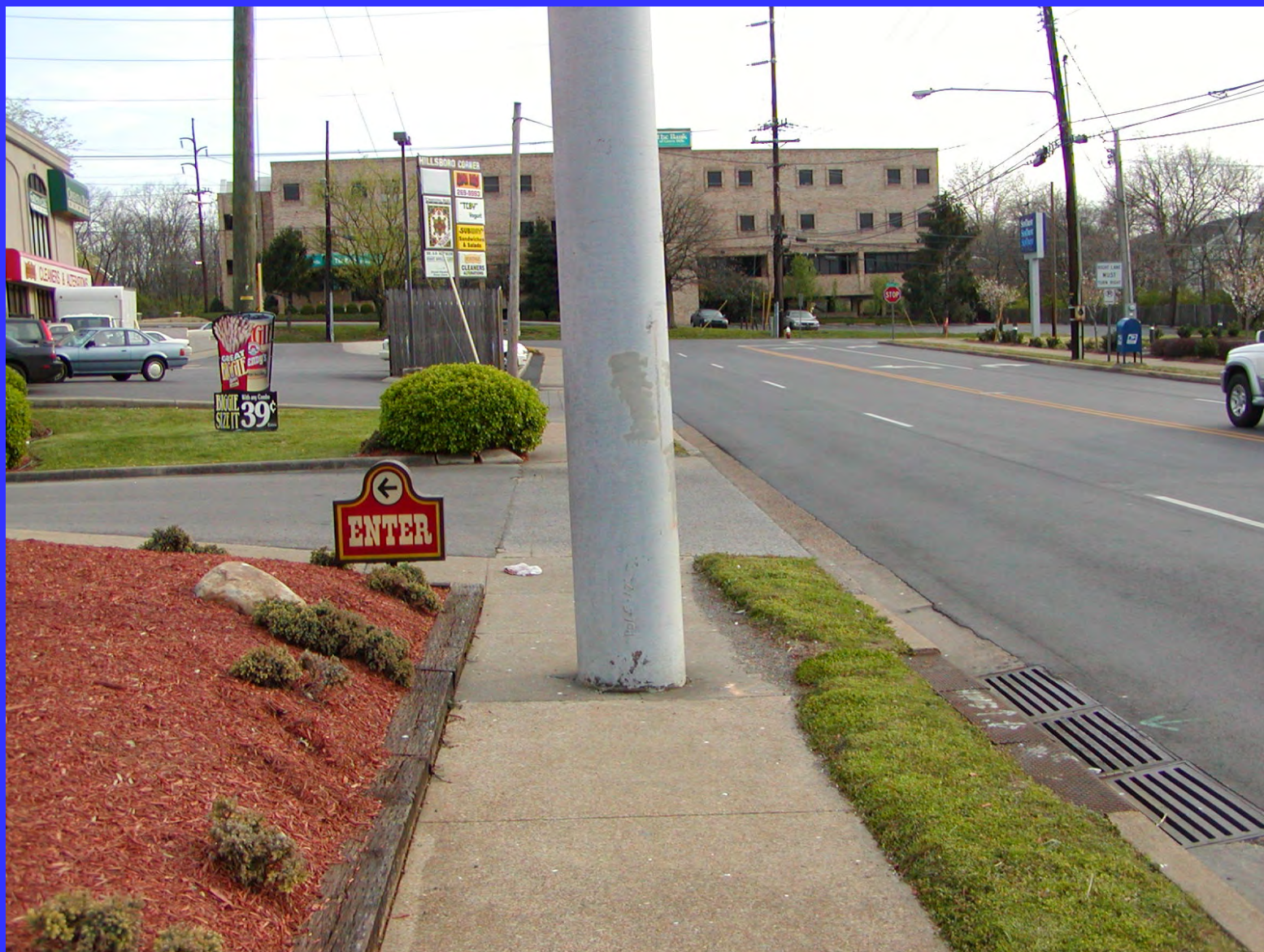
ALPHA ACADEMY  
of DOG TRAINING  
CLIENT  
PARKING  
ONLY!!  
Parking for Antiques Market  
is Allowed Curbside on  
Paved Plaza

UNITED

770-944-4960

Strategy #5:

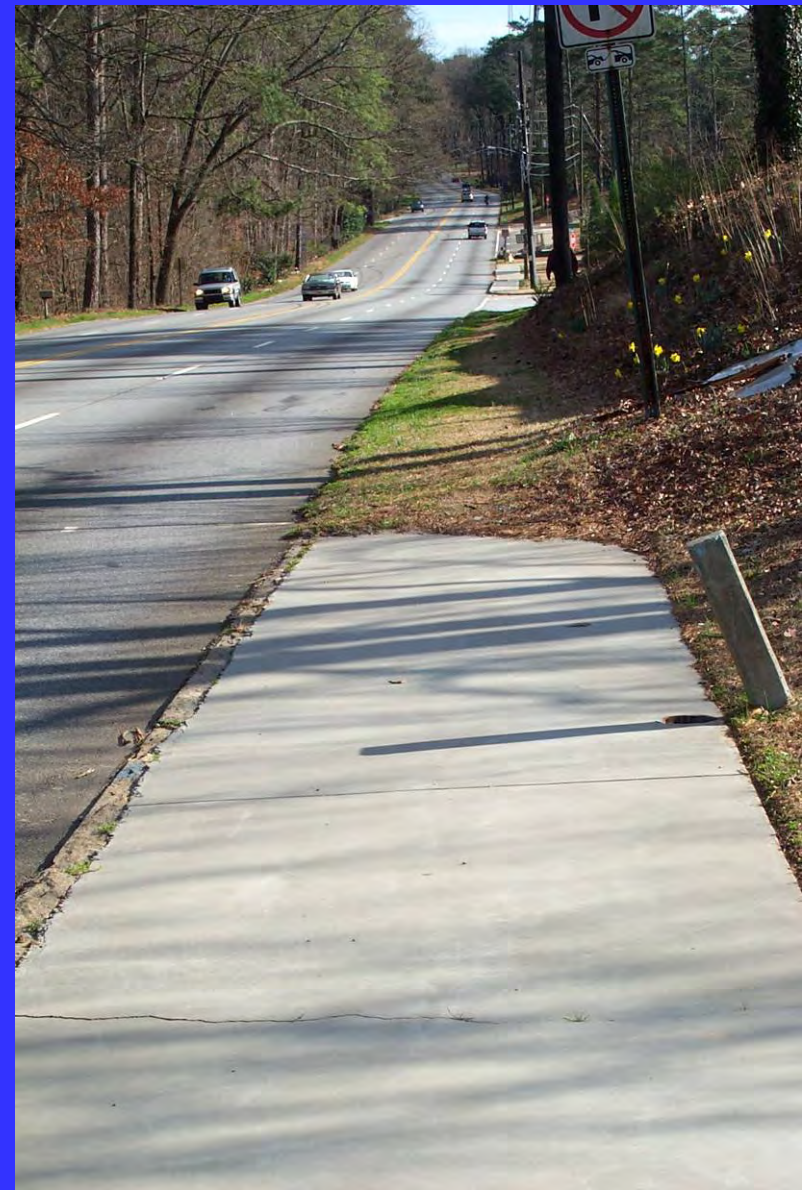
Obstruct Sidewalks





Strategy #6:

Use creative design.







Strategy #7:

Crosswalks should be  
dysfunctional, if not silly.



Strategy #8:

Combine Multiple Strategies





## Strategy # 9:

Never place an interesting or useful destination within walking distance of where anybody lives



Strategy #10:

Just Say It



# Strategy # 11:

Make everything car-accessible.  
*Everything.*





Pharmacies



# Dry Cleaners





Booze





Baked goods



Flowers



Auto Service



Fine

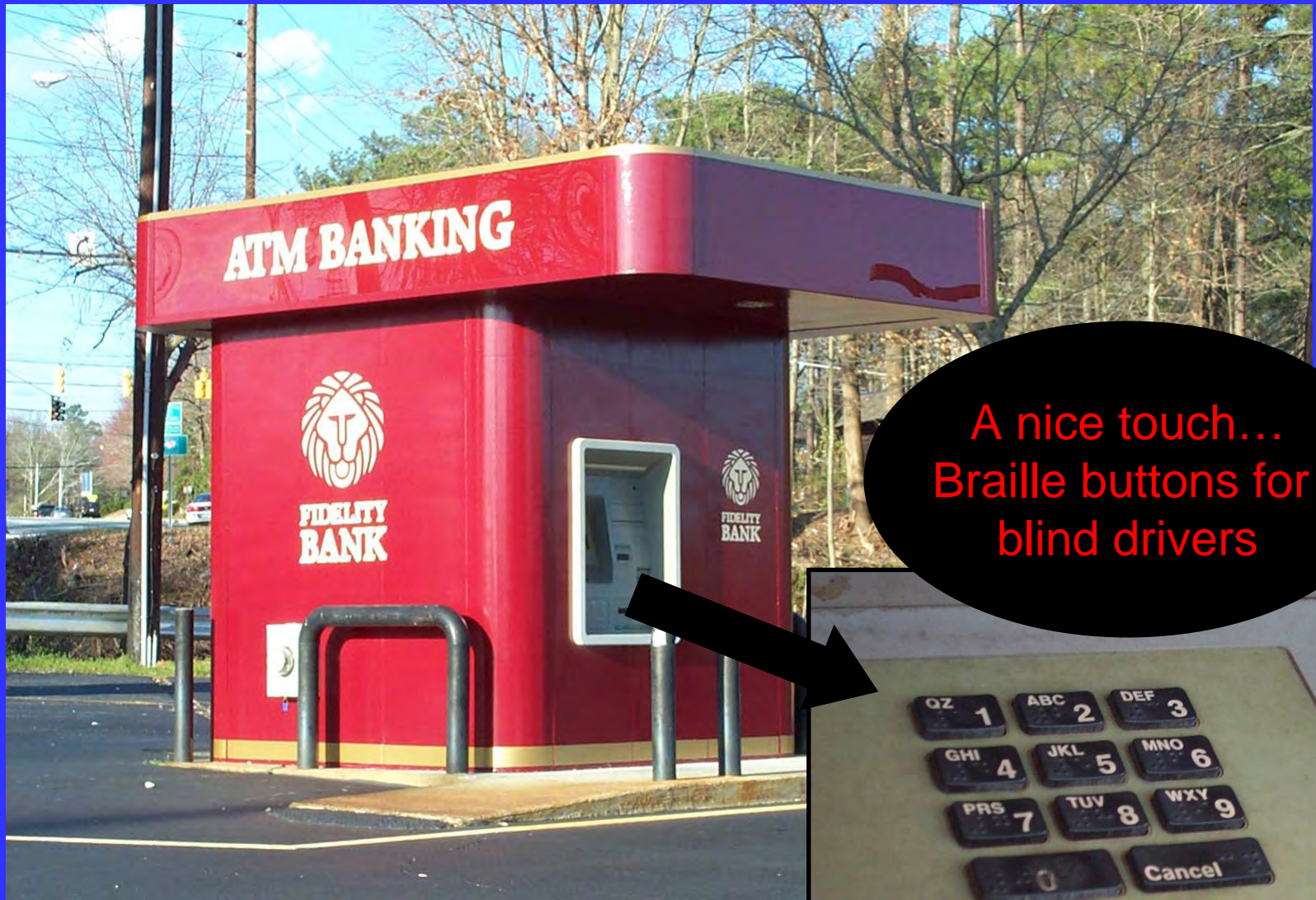


Food





Coffee



A nice touch...  
Braille buttons for  
blind drivers



Banking

# Mail Boxes





Drive-Thru Weddings

Little White Chapel  
Las Vegas, Nevada



# Child support payments





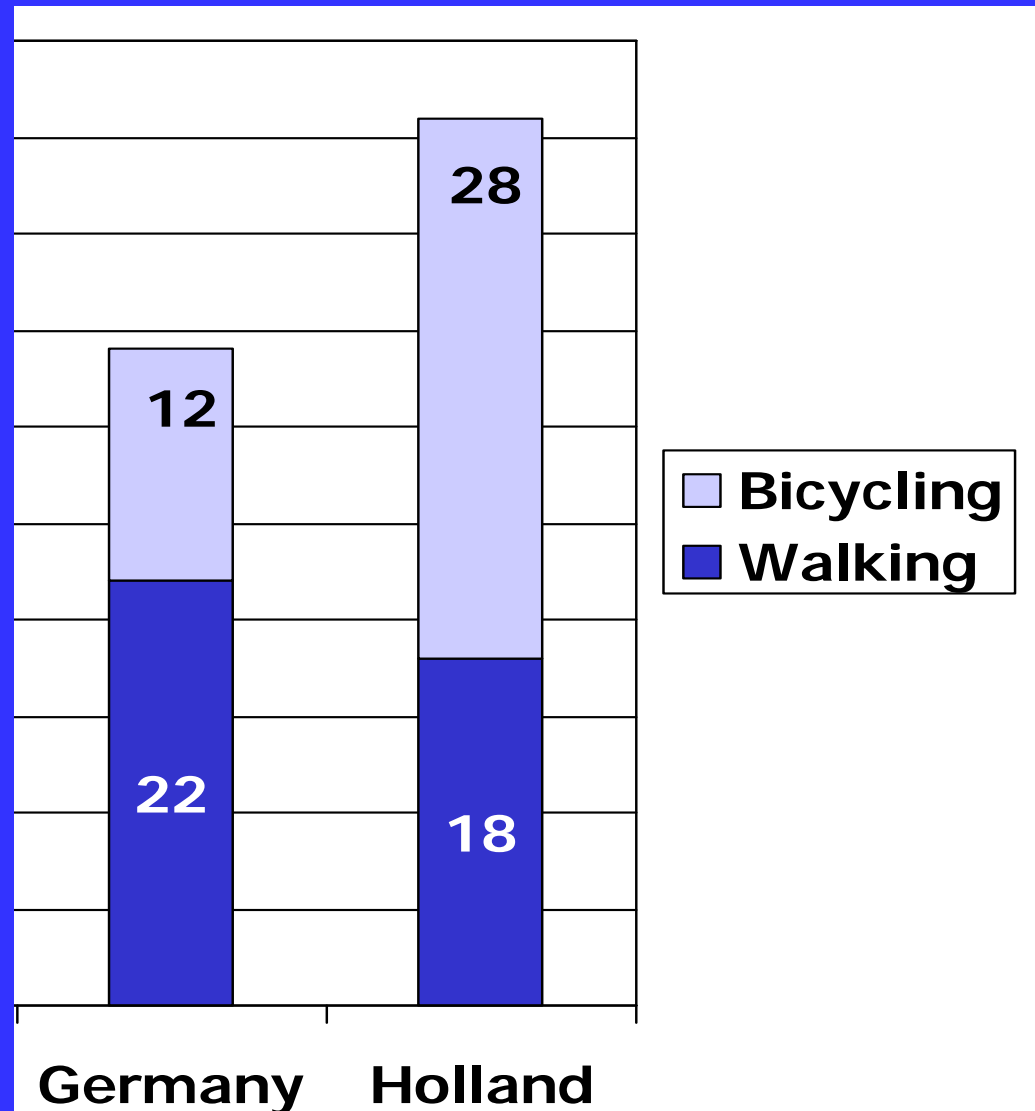
Davidson, Tennessee



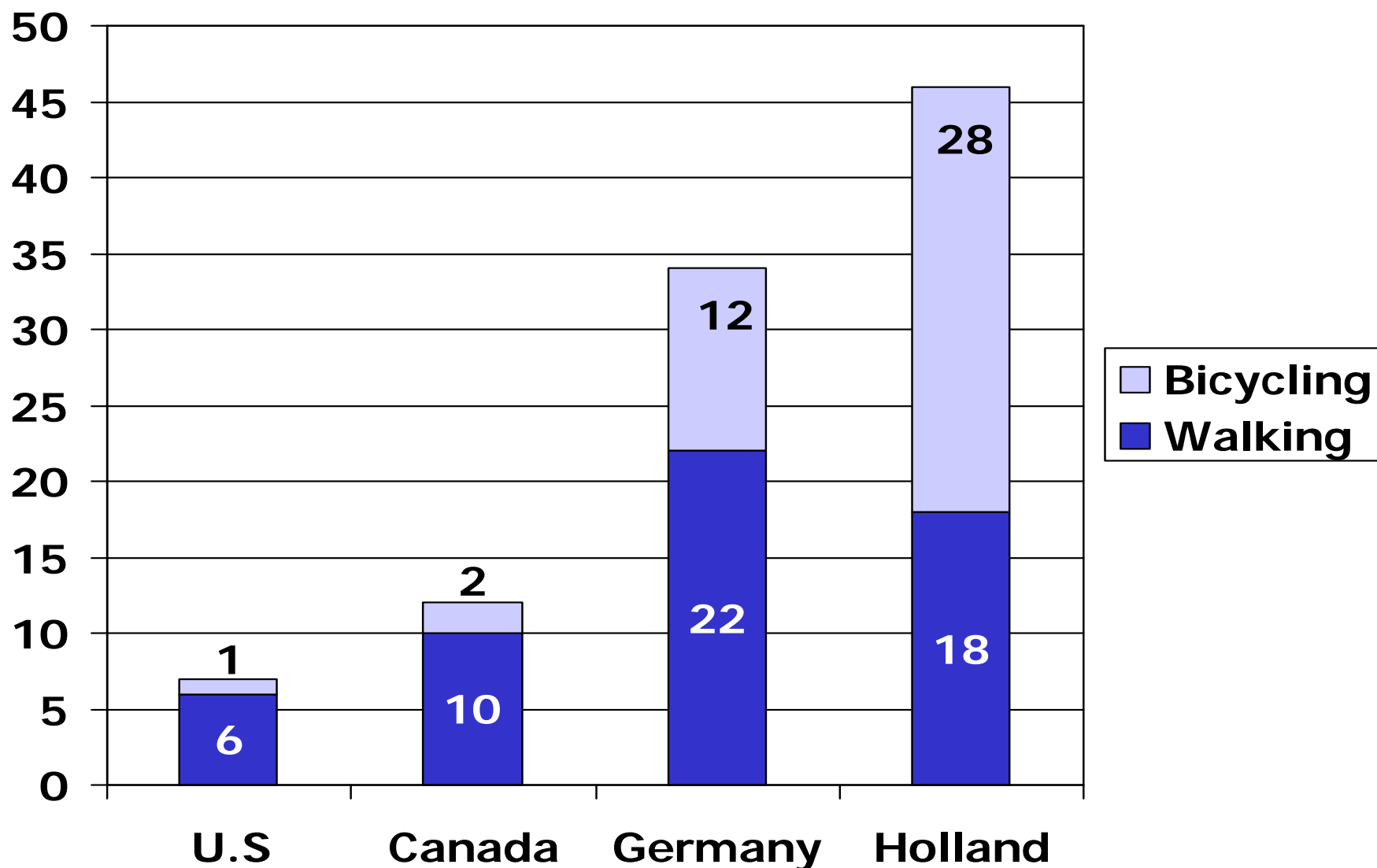
Pensacola, Florida

## Drive-Thru Funeral Homes

# Percentage of Trips in Urban Areas Made by Walking and Bicycling: North America and Europe 1995



# Percentage of Trips in Urban Areas Made by Walking and Bicycling: North America and Europe 1995



APRIL 2, 2006

www.time.com AOL Keyword: TIME

SPECIAL REPORT GLOBAL WARMING

# TIME

**BE  
WORRIED.  
BE **VERY**  
WORRIED.**

Climate change isn't some vague future problem—it's already damaging the planet at an alarming pace. Here's how it affects you, your kids and their kids as well

EARTH AT THE **TIPPING POINT**

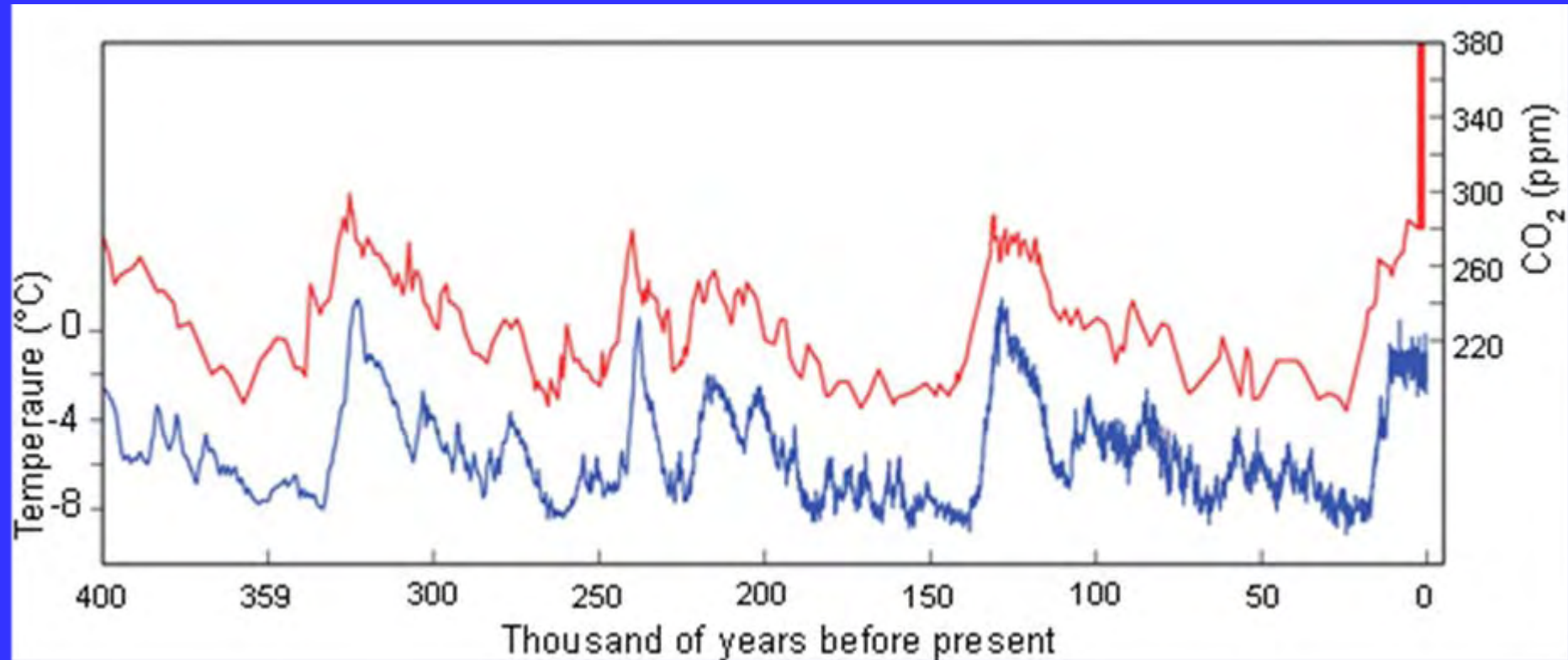
HOW IT THREATENS YOUR **HEALTH**

HOW **CHINA & INDIA** CAN HELP  
SAVE THE WORLD—OR DESTROY IT

THE CLIMATE **CRUSADERS**



# Changes in CO<sub>2</sub> and Temperature in the last 400,000 years



A. V. Fedorov et al. *Science* 312, 1485 (2006).

- “Eleven of the last twelve years (1995 -2006) rank among the 12 warmest years in the instrumental record of global surface temperature (since 1850)”



**Intergovernmental Panel on Climate Change 2007**

# Why Health?

## U. S. Agents in Chicago Track a Subtle Health Hazard: Heat

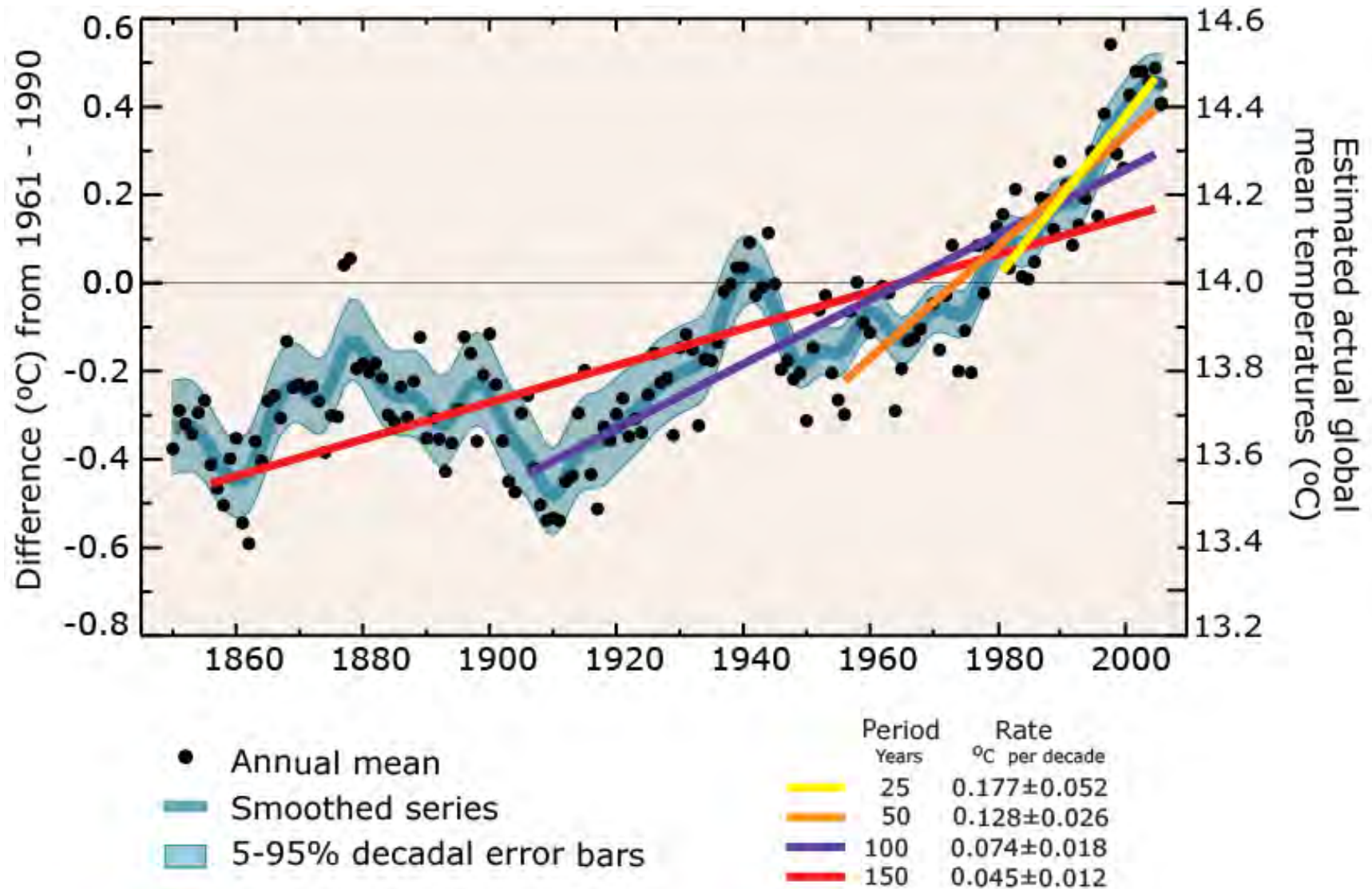


Federal health agents are in Chicago trying to determine the contributing factors to the more than 500 deaths related to the heat in July. Coffins containing the bodies of unclaimed victims were loaded on a truck by a Cook County morgue worker this summer for a mass burial.

Associated Press

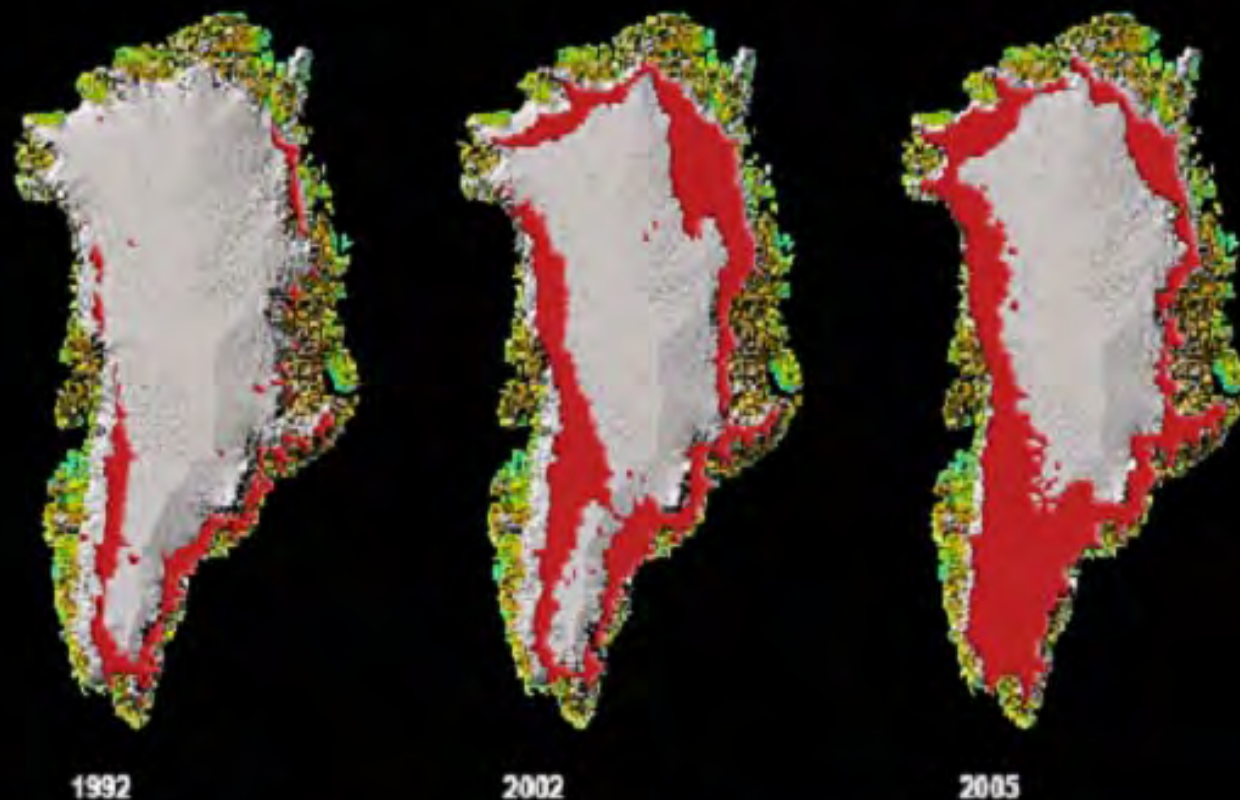
1995 Chicago Heat Wave: Coffins in Freezer Truck: 700 Deaths

# Global average temperature



# Worldwide Impacts Beyond Question

## Increasing Extent of Greenland Seasonal Ice Melt



1992

2002

2005

Valicogna and Wehr, "Acceleration of Greenland ice mass loss in spring 2004", *Nature* (2006)





April Snowpack – Last 50 years

## Decreasing California Snowpack

Historical Average (1961–1990)



2070–2099

Lower Warming Range  
Drier Climate



Medium Warming Range  
Drier Climate



April 1 snow water equivalent (inches)



- New York Times: Feb 3, 2007

*The purpose of public health is  
to fulfill society's interest in*

..... ?

*Future of Public Health* 1988 The  
Institute of Medicine

# Institute of Medicine

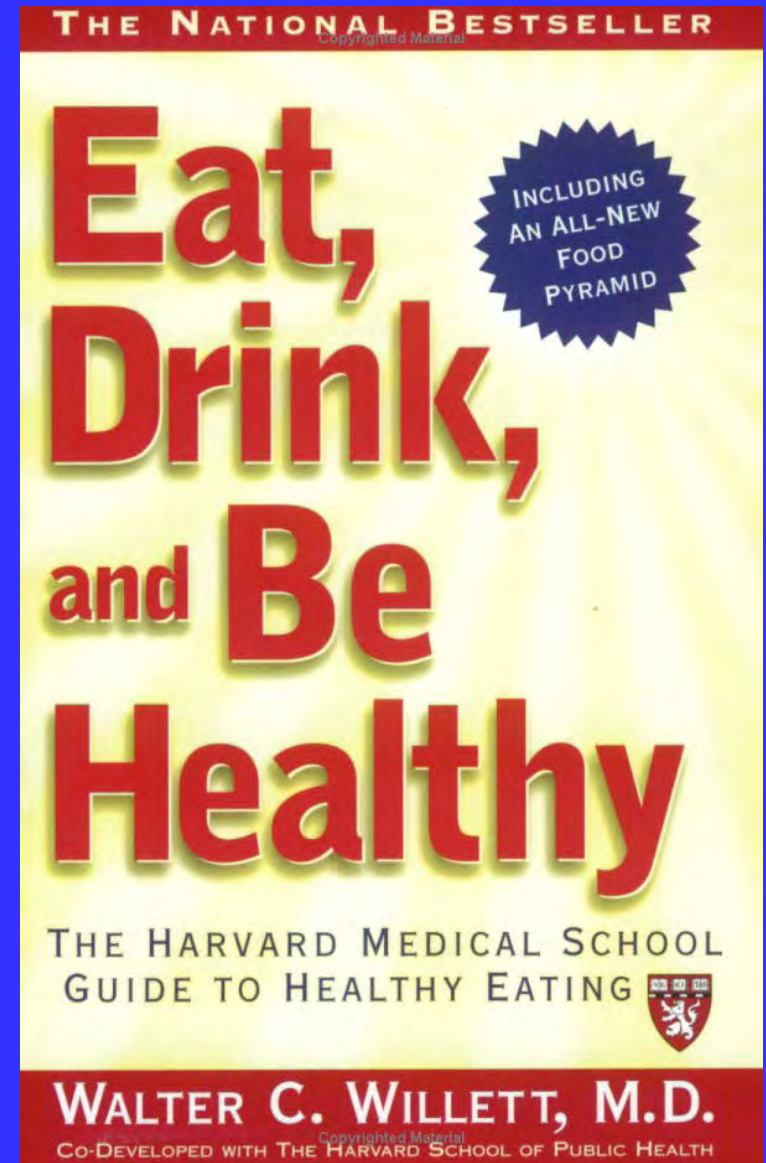
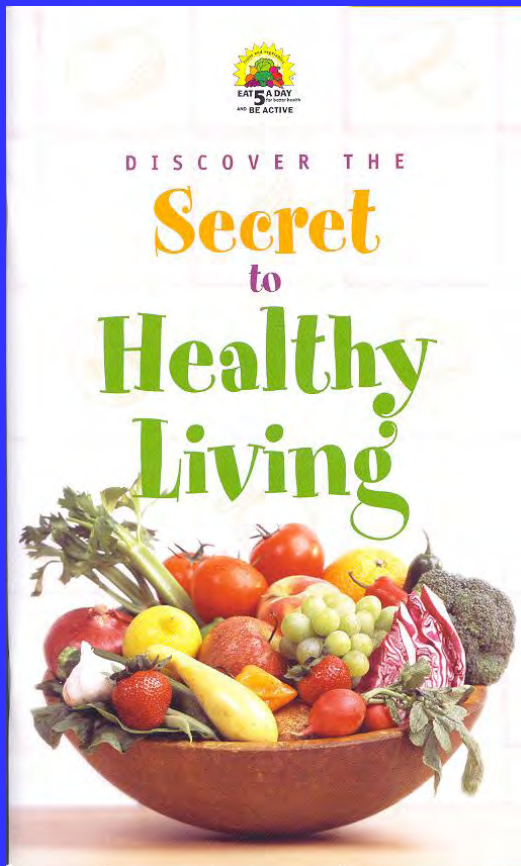
*The purpose of public health is  
to fulfill society's interest in  
assuring the conditions in which  
people can be healthy*

# Not zero-sum

- Poor person making a living
  - Increases prosperity
- My getting healthier
  - Actually makes you healthier

# Personal Solutions: Diet

- What and how we eat



# Food



## A large, overflowing basket of various snacks, including bags of Fritos, Doritos, Oreo, and others, presented as a gift. The basket is filled with a variety of popular snack brands and is tied with a decorative ribbon. The background is dark, making the colorful snack bags stand out.



HOME  
ABOUT SAGE  
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## Projects

AGRICULTURAL  
PARKS

URBAN EDGE  
AGRICULTURE

PUBLIC & FARMERS'  
MARKETS

PUBLIC  
EDUCATION

- ◆ Market Resource Kit
- ◆ Railroad Square

## Public and Farmers' Market: Projects and Consulting

SAGE's staff has considerable expertise in the arena of public markets and farmers' markets based on many years of experience planning and managing them. In the past few years, SAGE has been asked to consult on the establishment and design of new public and farmers' markets (Portland Public Market, Fruitvale market, in addition to those listed below), has produced individually granted projects about farmers markets in general, and has been asked to present at public and farmers' market conferences. For more information on individual projects, please follow the links below.

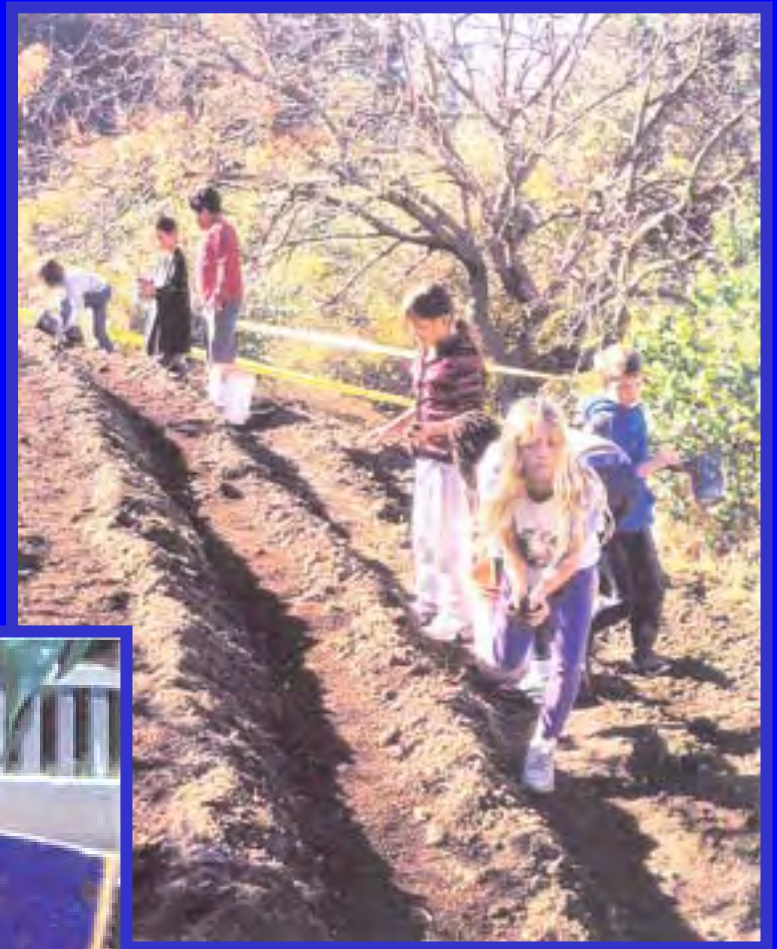
### Projects

[Farmers' Market Resource Kit](#) - Tool for policymakers and market organizations about farmers' markets

[Railroad Square Farmers' Market](#) - Consultation on design and vision for new farmers' market in Santa Rosa

# School Gardens

Exercise, Learning,  
Cooperation, Fun, and



**It Tastes good**

# Educational Benefits of Walking and Biking to School

- Increases concentration
- Improves mood and ability to be alert
- Improves memory and learning
- Enhances creativity

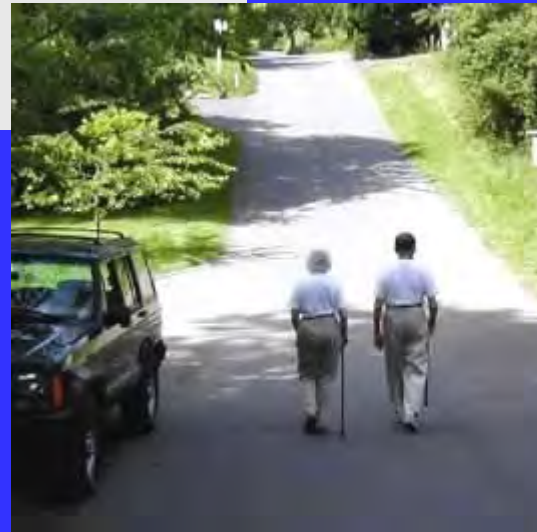
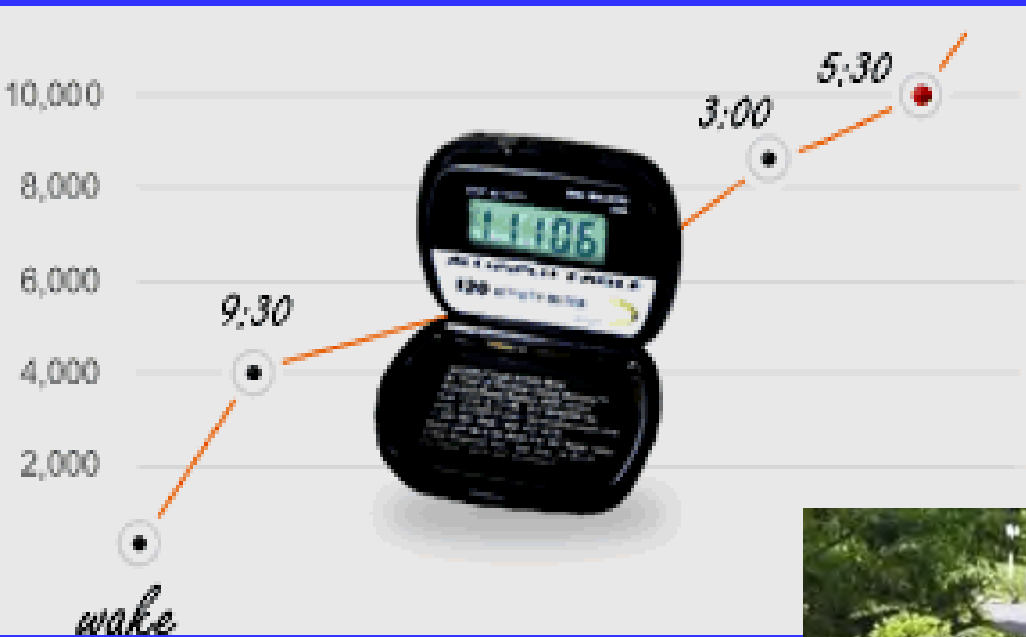


BE COOL  
WALK TO SCHOOL



# 10,000 Steps a Day

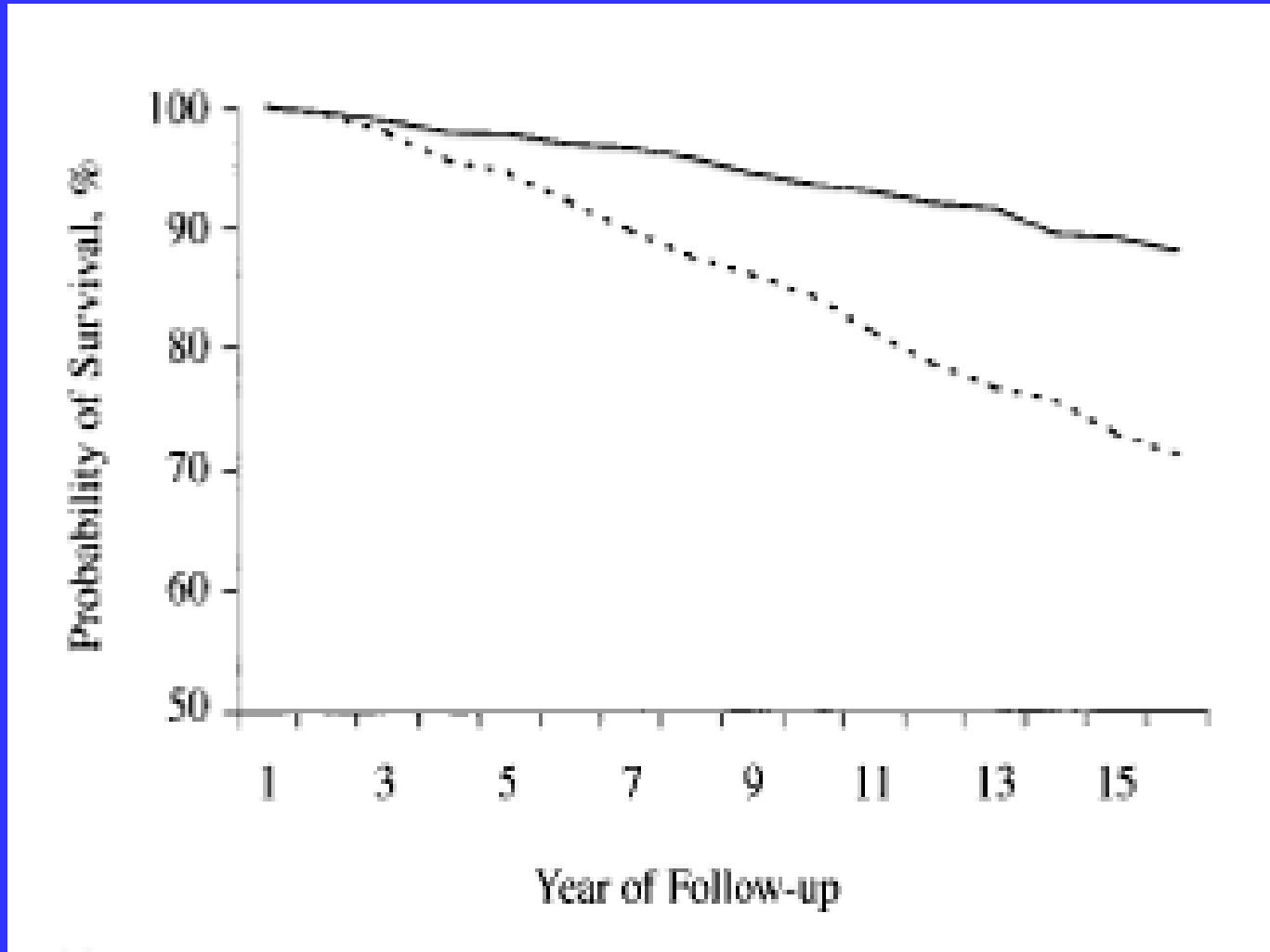
Originated from Japanese: "*Manpo-Kei*"



# 10,000 steps

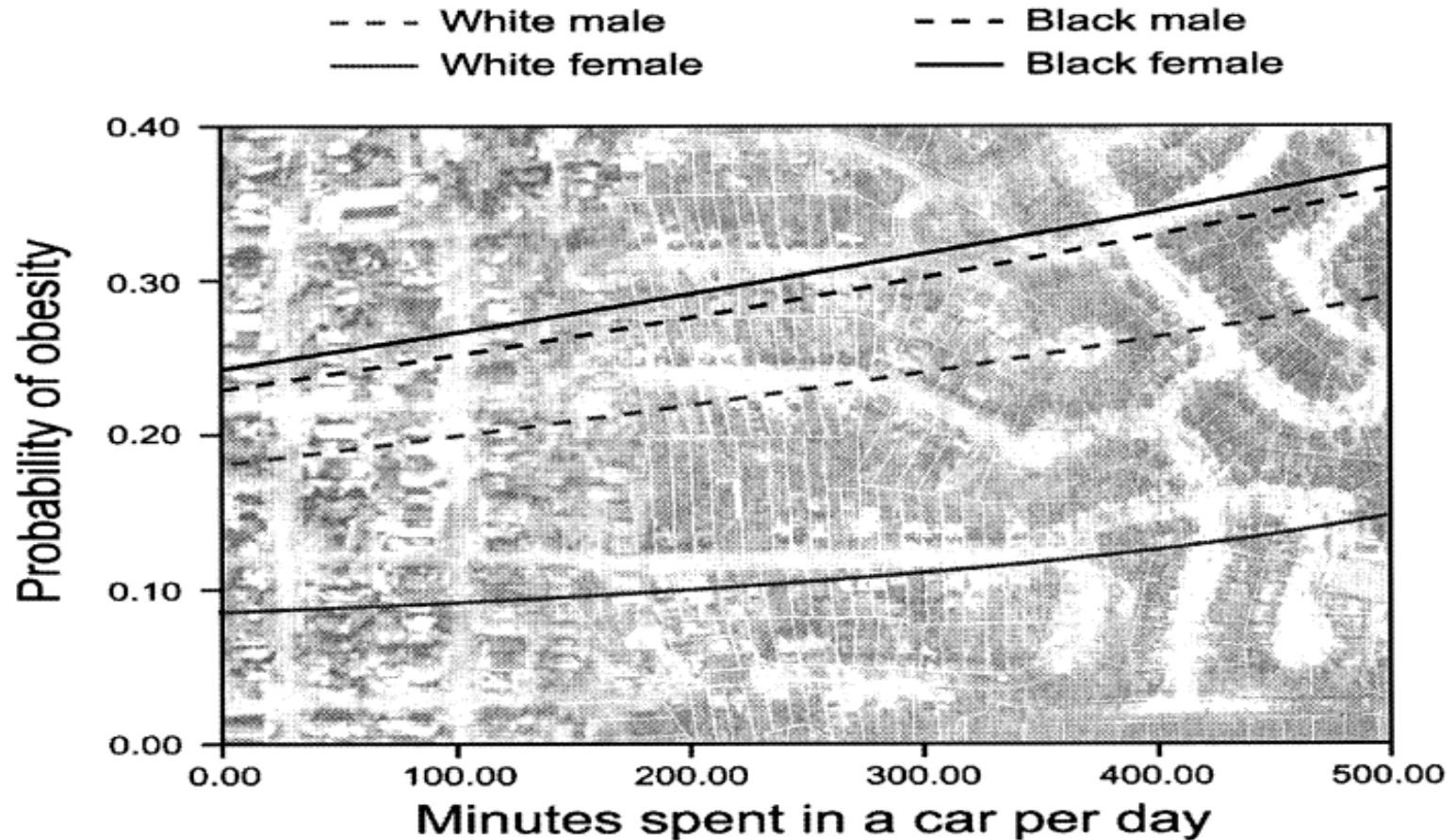
- 3234 people with IGT (Pre-Diabetes)
- walked or exercised five times a week for 30 minutes
- lost 5% to 7% of their body weight
- reduced their risk of diabetes by 58%

# Survival of 1263 men with Type 2 Diabetes: Fit vs Unfit



Low Cardiorespiratory Fitness and Physical Inactivity as Predictors of Mortality in Men with Type 2 Diabetes." 18 April 2000 *Annals of Internal Medicine* 132, pp 605-611 M. Wei et al

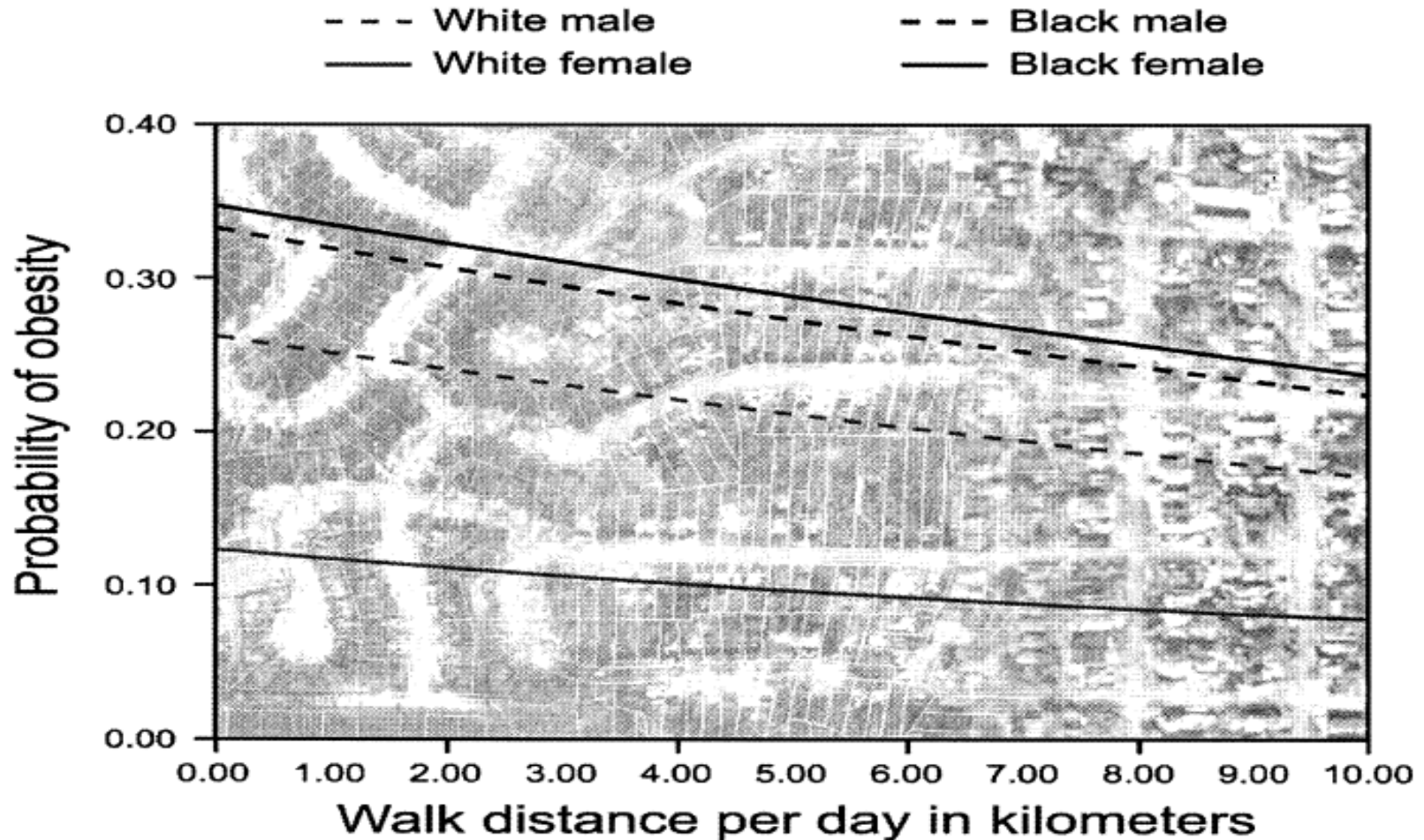
# More time in a car → Higher Probability of Obesity



**Obesity Relationships with Community Design, Physical Activity, and Time Spent in Cars**

Lawrence D. Frank, PhD, Martin A. Andresen, MA, Thomas L. Schmid, PhD

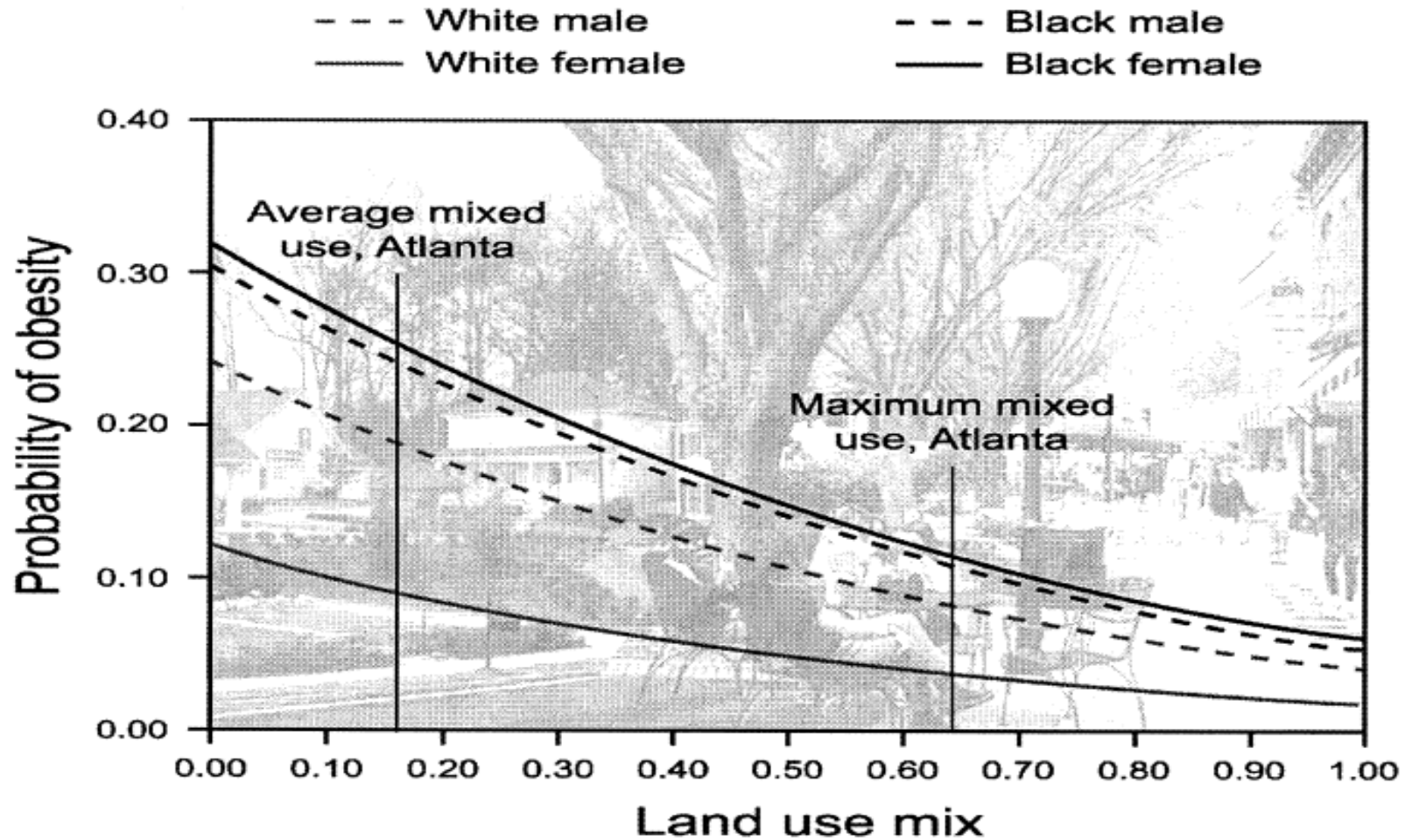
# More Walking: less obesity



## Obesity Relationships with Community Design, Physical Activity, and Time Spent in Cars

Lawrence D. Frank, PhD, Martin A. Andresen, MA, Thomas L. Schmid, PhD

# Higher density and connectivity: lower obesity— Atlanta study 2004



## Obesity Relationships with Community Design, Physical Activity, and Time Spent in Cars

Lawrence D. Frank, PhD, Martin A. Andresen, MA, Thomas L. Schmid, PhD

# Walkable neighborhoods encourage more walking in older adults

- Older women who live within walking distance of trails, parks or stores recorded significantly higher pedometer readings than women who did not. The more destinations that were close by, the more they walked.



# Reversing “The Disease” of the 21<sup>st</sup> Century...

- Depression

# Exercise in Healthy Places



- **Treatment for Depression—**
- **Exercise**
- **Sunlight**
- **Nature Contact**
- **The health need for places to walk**



# Places of the Heart



The health need for them





- CDC now mandates its new Buildings have attractive, daylit stairways at main entrance.
- Elevators require more effort to get to than stairs

# Human Contact

- Being with People we love and who love us



# Some Policy Solutions

# California Medical Association-

Resolution 12 -- January 2007

**That CMA support legislation that maximizes physical activity opportunities when funds from voter-approved infrastructure funding measures are allocated.**

# California Medical Association – Resolution 11 January, 2007

**That CMA support legislation that enhances the role of public health in local planning, zoning and the school siting process to facilitate the design of communities which foster and support physical activity.**

# Draft American Academy of Pediatrics Statement Community Design and Children's Health

## AMERICAN ACADEMY OF PEDIATRICS Committee on Genetics and Environmental Hazards

### Special Susceptibility of Children to Radiation Effects (RE0411)

In a nuclear war, children may also have to survive the effects of radiation—the parents who provide for necessary physical and services following a nuclear attack. Finally, persons exposed have a substantially greater delayed effects than do adults.

1. The peak frequency occurs earlier among those exposed to radiation than older.

2. Breast cancer occurs in those who were exposed to radiation at the usual age for development. The rates for breast cancer to 19 years of age at the time of exposure are greater than those for later time. Unexpectedly, the rate of breast cancer has been found to be the same in those who were 9 years old or younger when exposed to radiation as in those who were 19 years old or younger when exposed to radiation. The same rate of breast cancer occurrence of breast cancer among all other age groups is less than 3%.

PEDIATRICS ISSN 0021-9103  
American Academy of Pediatrics  
November 1991

890 PEDIATRICS

Asthma can be regarded as a form of reversible airway obstruction of bronchial hyperirritability following various stimuli. Some of the stimuli are allergens, viral respiratory infections, and other factors that stimulate the airways, (e.g., vigorous exercise, smoke, and air pollutants). The airway hyperactivity varies among individuals and, from time to time, can be lowered by various factors, including infection, exercise, exposure to allergens, climatic factors, and antiasthmatic drugs. The threshold for an asthmatic attack can be lowered by these factors, and the avoidance of these factors can raise the threshold for an asthmatic attack. The avoidance of these factors can be demonstrated, avoidance of the selected irritants, immunotherapy, and avoidance of allergens can raise the threshold for induced hyperactivity.

Advances of clinical pharmacology have significantly improved the management of asthma in children. Application of these advances to the management of asthma in children has led to a reduction in the frequency and severity of acute episodes, the chronic airway obstruction, the various acute episodes, and the persistence of pulmonary function measurements is directed toward the altered physiology and the subsequent symptoms and signs of the disease. The pathophysiology of bronchial asthma includes contraction of bronchial smooth muscle, edema of bronchial mucosa, and increased permeability of the mucosa to water and electrolytes. These factors cause airway narrowing and resistance to airflow.

## AMERICAN ACADEMY OF PEDIATRICS Section on Allergy and Immunology Management of Asthma (RE3901)

## AMERICAN ACADEMY OF PEDIATRICS Ambient Air Pollution: Respiratory Hazards to Children (RE9317) Committee on Environmental Health

Levels of many outdoor pollutants have increased substantially after the passage of the Clean Air Act of 1970, however, levels of pollutants, particulate matter, and ozone, which are the most serious hazards to children, are still well above the standards for these pollutants. The adoption of the new standards for these pollutants, driving the adoption of the new standards, for which there are no known health effects, may be associated with health effects.

As an ambient air pollutant, the action of sunlight on nitrogen oxides and hydrocarbons, which are the main components of smog, tends to be highest on warm, sunny days. These pollutants are conducive to outdoor air pollution concentrations peak when children are likely to be outdoors. The pollutants are important to distinguish from stratospheric ozone, which is a product of industrial processes, and from carbon monoxide, a product of incomplete combustion of fossil fuels. Airborne particulate matter is a mixture of natural and man-made particles, including dust, pollen, and smoke from residential wood burning, and other sources. Acid rain, and other sources of sulfur dioxide, and reactions of photochemical pollutants with nitrogen dioxide.

Exposure to ambient air pollution has been clearly associated with acute effects in epidemiologic studies of controlled exposure studies. For example, ozone causes bronchospasm and hyperactivity in asthmatic children, decrements in pulmonary function, and irritation of the respiratory tract.

Knowledge of the extent and seriousness of childhood lead poisoning has vastly expanded since the last statement regarding lead poisoning by the American Academy of Pediatrics in 1987.<sup>1</sup> Blood lead levels once thought to be safe have been shown to be associated with IQ deficits, behavior disorders, slowed growth, and impaired hearing.<sup>2</sup> In fact, lead poisoning is, according to the Department of Health and Human Services, "the most important environmental health problem for young children."<sup>3</sup> The rapid development of the scientific database requires recognition by physicians of the significance of effects at lower levels and a change in clinical practice.

During the last 30 years the Centers for Disease Control and Prevention (CDC) has revised downward the definition of the blood level at which lead poisoning occurs from 60 µg/dL in 1975, and 25 µg/dL in the early 1980s, to 30 µg/dL in 1975, and 10 µg/dL in 1985. The 1991 CDC statement "Preventing Lead Poisoning in Young Children" recommended lowering the community intervention level to 10 µg/dL and the action level to 5 µg/dL.<sup>4</sup> In 1987 the community action levels (Table 1).<sup>2</sup> In 1987 the American Academy of Pediatrics stated that lead levels greater than 25 µg/dL were unacceptable for children. The Academy now recognizes that impairment of cognitive function begins to occur at levels greater than 10 µg/dL, even though clinical symptoms are not seen. In the late 1970s, the average blood lead level for US children was 16 µg/dL, and the blood lead level for US children has declined since 1976 due to the phaseout of lead in gasoline and reduction of lead in food, and it is now between 4 and 6 µg/dL.<sup>5</sup> However, severe lead poisoning still occurs, and there are still many children at high risk of exposure.

## AMERICAN ACADEMY OF PEDIATRICS Lead Poisoning: From Screening to Primary Prevention (RE9307) Committee on Environmental Health

and disability in the population. Pediatricians will continue to play a key role in the identification, treatment, and eradication of lead poisoning.

### BACKGROUND

Lead poisoning has been recognized since antiquity. In the second century BC, Dioscorides, a Greek physician, said that "lead makes the mind give way."<sup>6</sup> Childhood lead poisoning from lead-based paint was first described in Brisbane, Australia, in 1897.<sup>7</sup> The cause of this endemic illness was identified as painted porch railings,<sup>8</sup> and in 1920 the city of Brisbane passed the first act to prevent poisoning from lead-based paint. In the United States, plumbism from lead-based paint was described in the first decade of the 20th century.<sup>9</sup> It was believed initially that if a child recovered from the acute illness, there were no sequelae. Byers and Lord<sup>10</sup> refuted this in 1943 in their report of 20 children who had recovered from acute lead intoxication: 19 had obvious behavior disorders or mental retardation. During the early 1970s several studies were conducted to pursue this question further: some showed lead-related cognitive deficits but these studies were controversial.<sup>11</sup> Better designed and more sophisticated studies have been carried out since that time, and there is a general consensus of opinion about the relationship between lead and cognitive function.<sup>12</sup>

### EPIDEMIOLOGY

Lead poisoning is not a disease of poor or minority children alone. In 1984, the last year for which national estimates are available, 17% of American children had blood lead levels greater than 15 µg/dL.<sup>13</sup> There were 12 million children who lived in lead-painted homes, and 6 million children living in homes built before 1940 when paint with the highest concentrations of lead was used. For white children, 7% in higher socioeconomic status areas and 25% in poorer communities had blood lead levels greater than 15 µg/dL. For black children, 8% in higher socioeconomic status areas and 25% in poorer communities had blood lead levels greater than 15 µg/dL. Studies have shown that the highest risk of lead poisoning is in children living in older homes with lead-painted interiors.

California Medical Association -  
Resolution 9 January, 2007

**That CMA seek opportunities to  
educate its members and the  
public about the potentially  
negative effects of the  
consumption of high fructose  
corn syrup.**

# Survey of Potential Home Buyers 2000 – 2005

## “Very or Extremely” Important Amenities

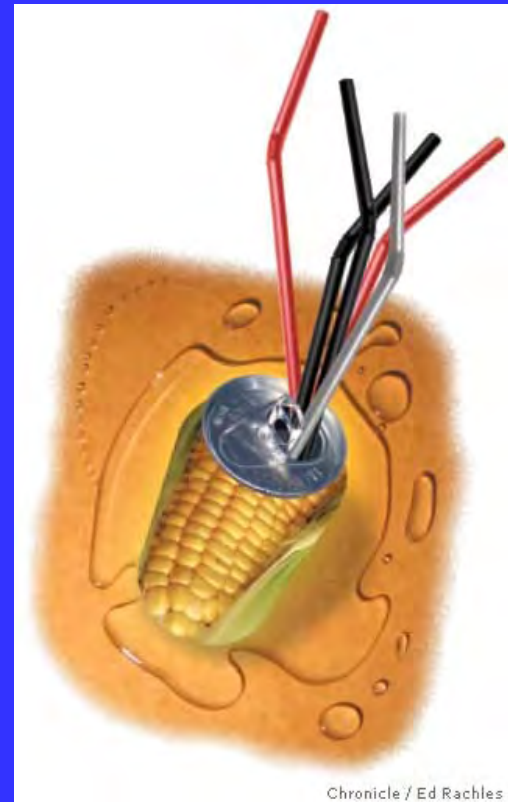
*American Lives 2005*

	2000	2005
1. An Exercise / Fitness Center	36%	62%
2. A Community Recreation Center	36%	55%
3. A Town Center w Small Shops, Coffee Bars, Places to Meet & Socialize	41%	56%
4. Interesting Little Parks	49%	62%
5. Walking And Biking Trails	67%	79%
6. Lots Of Open Space	69%	78%

# 1 cent per teaspoon HFCS?

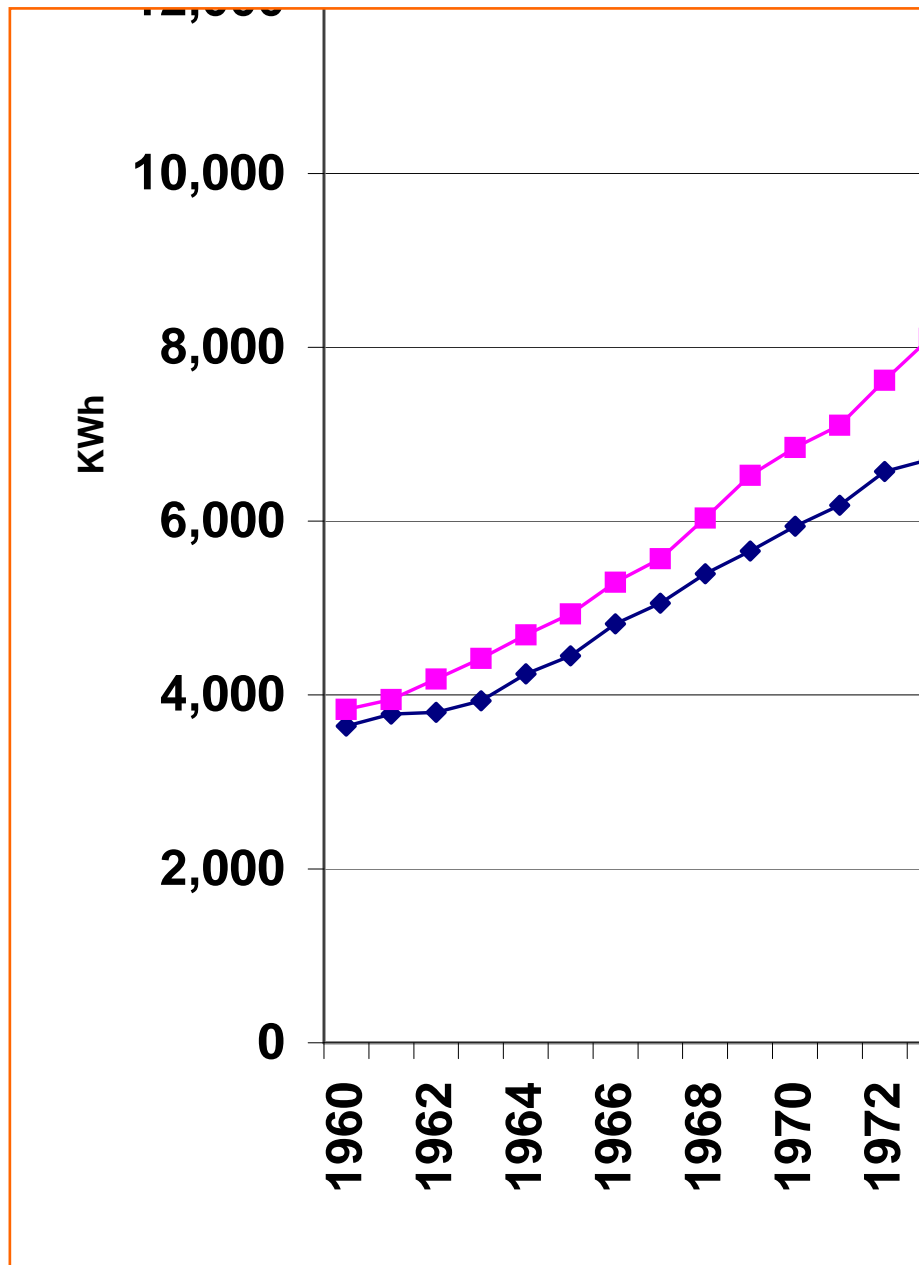
- Average American consumes 63 pounds of HFCS each year (6,048 teaspoons).
- CA population: 35.4 million
- \$0.01 per teaspoon HFCS would generate...

***\$2.1 billion a year in  
California***



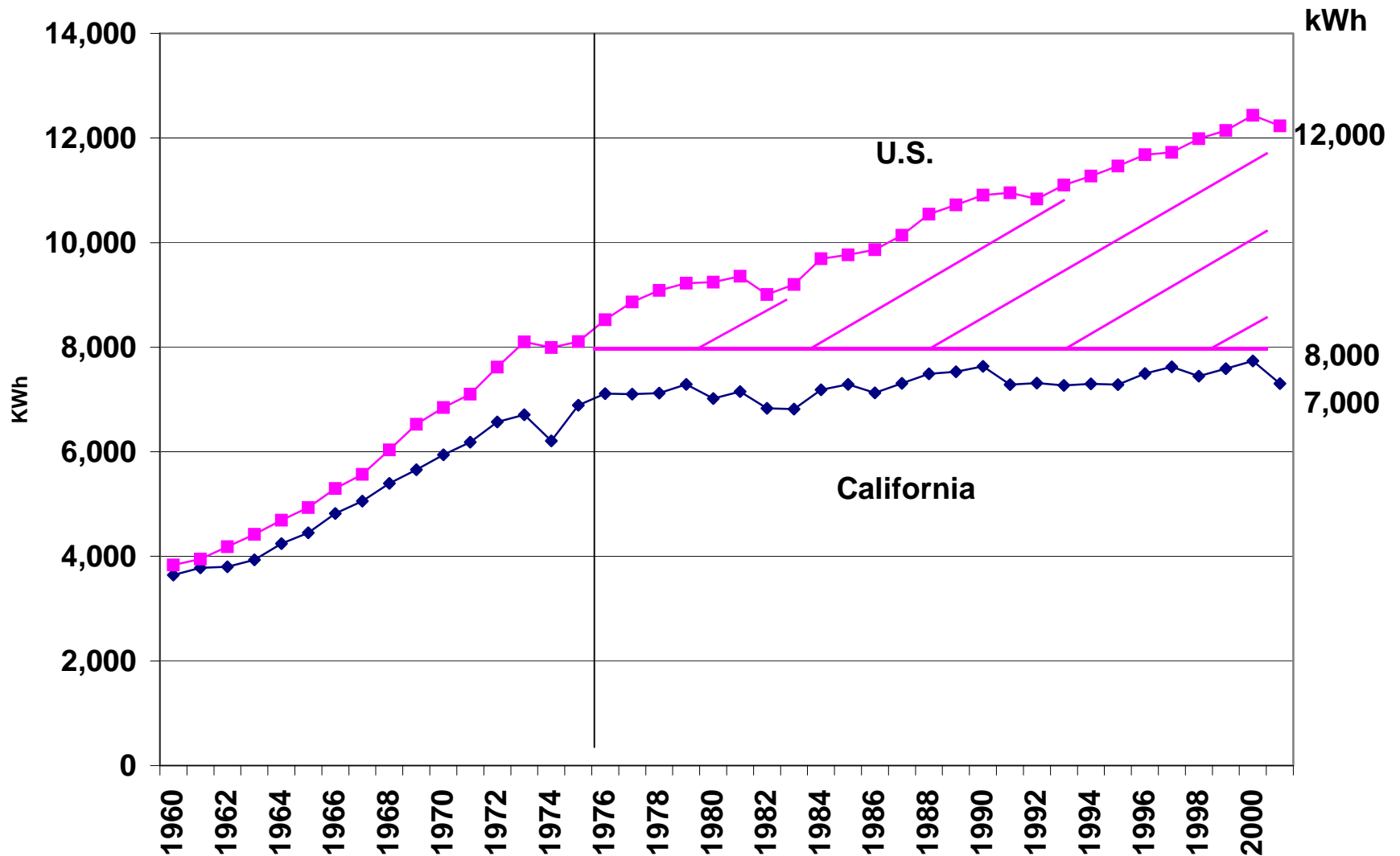
California Assembly Bill 437-  
(Jones-D)  
Health Officer Assistance to  
Planners.

Authorizes the county health officer to provide assistance to cities and counties with local land use planning and transportation planning processes as they relate to public health.

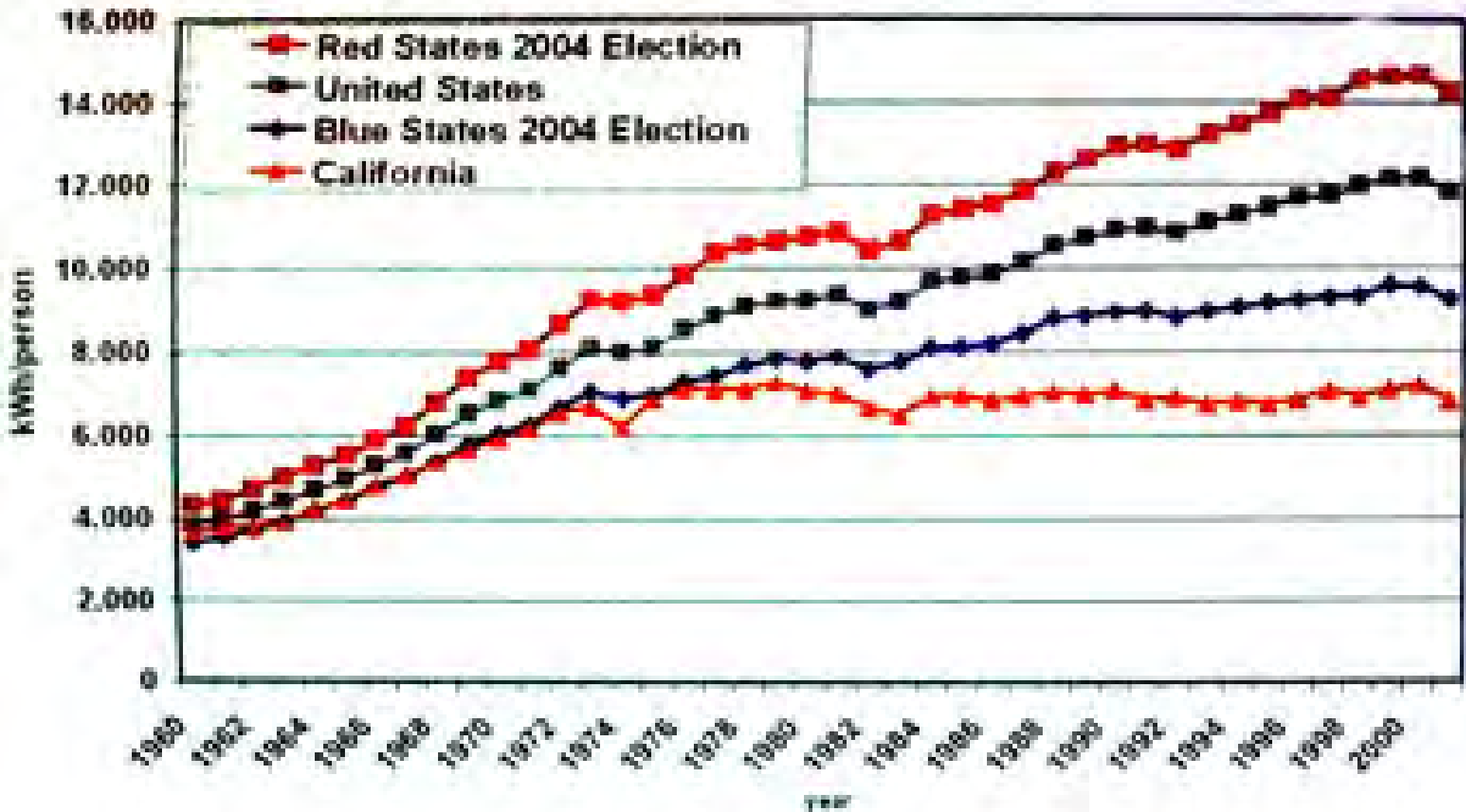


**United States  
vs California  
Electricity use  
per capita  
1960-1972 in  
KWh**

Total Electricity Use, per capita, 1960 - 2001



Per Capita Electricity Consumption



## Officials Reach California Deal to Cut Emissions



Rich Pedroncelli/Associated Press

Assembly Speaker Fabian Nunez, a Los Angeles Democrat, left, and the president pro tem of the state Senate, Don Perata of Oakland, during the announcement of the deal to limit greenhouse gas emissions.

By **FELICITY BARRINGER**

Published: August 31, 2006

SACRAMENTO, Aug. 30 — [California's](#) political leaders announced an agreement on Wednesday that imposes the most sweeping controls on carbon dioxide emissions in the nation, putting the state at the forefront

✉ E-MAIL

🖨 PRINT

📄 SINGLE PAGE

📄 REPRINTS

**New York Times Aug 31, 2006**

# Photovoltaic Roofs



Sacramento, California

- We swim in a sea of daylight every day...
- Shouldn't we design our buildings to let it in?



# Change Neighborhoods



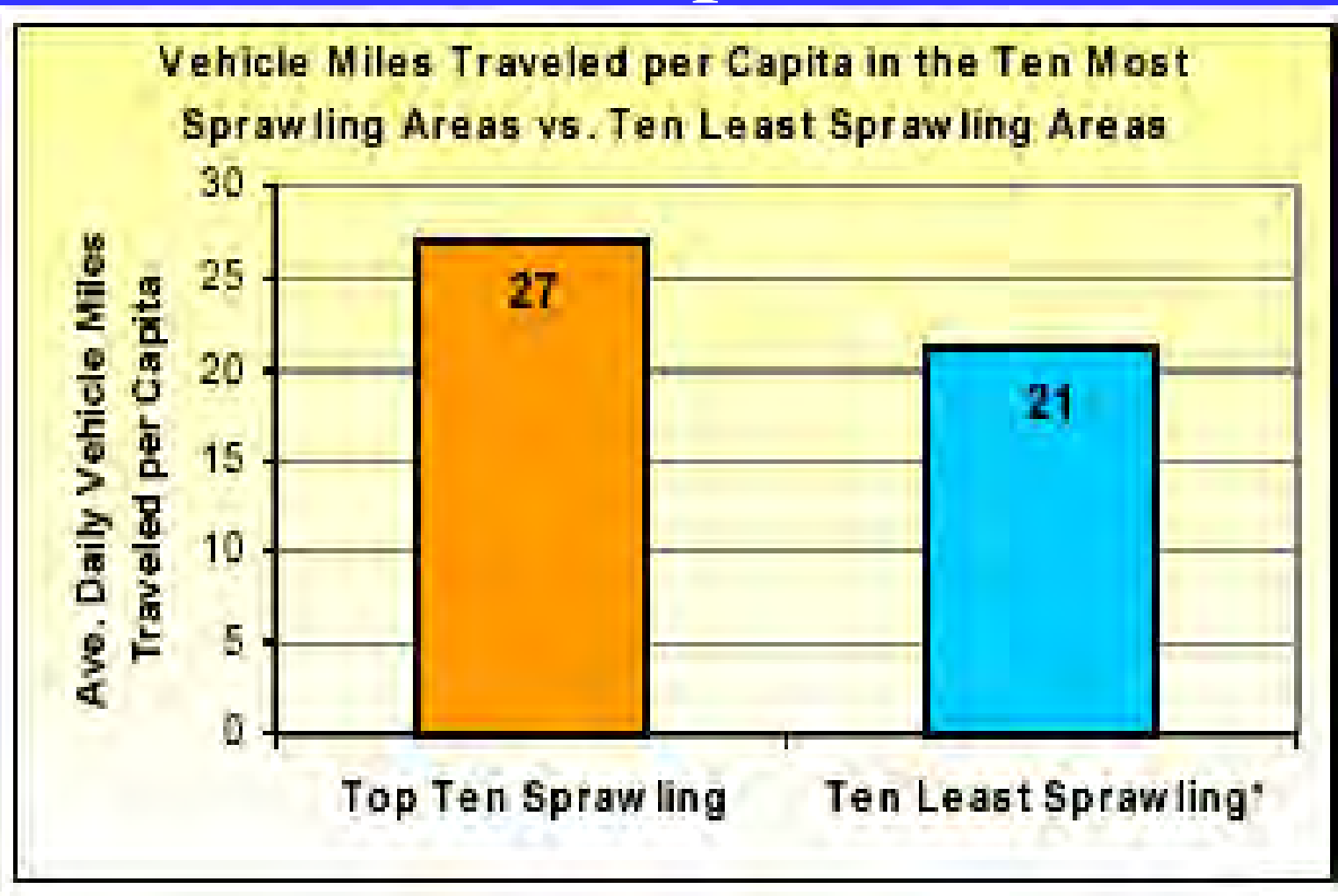
# Envisioning Change



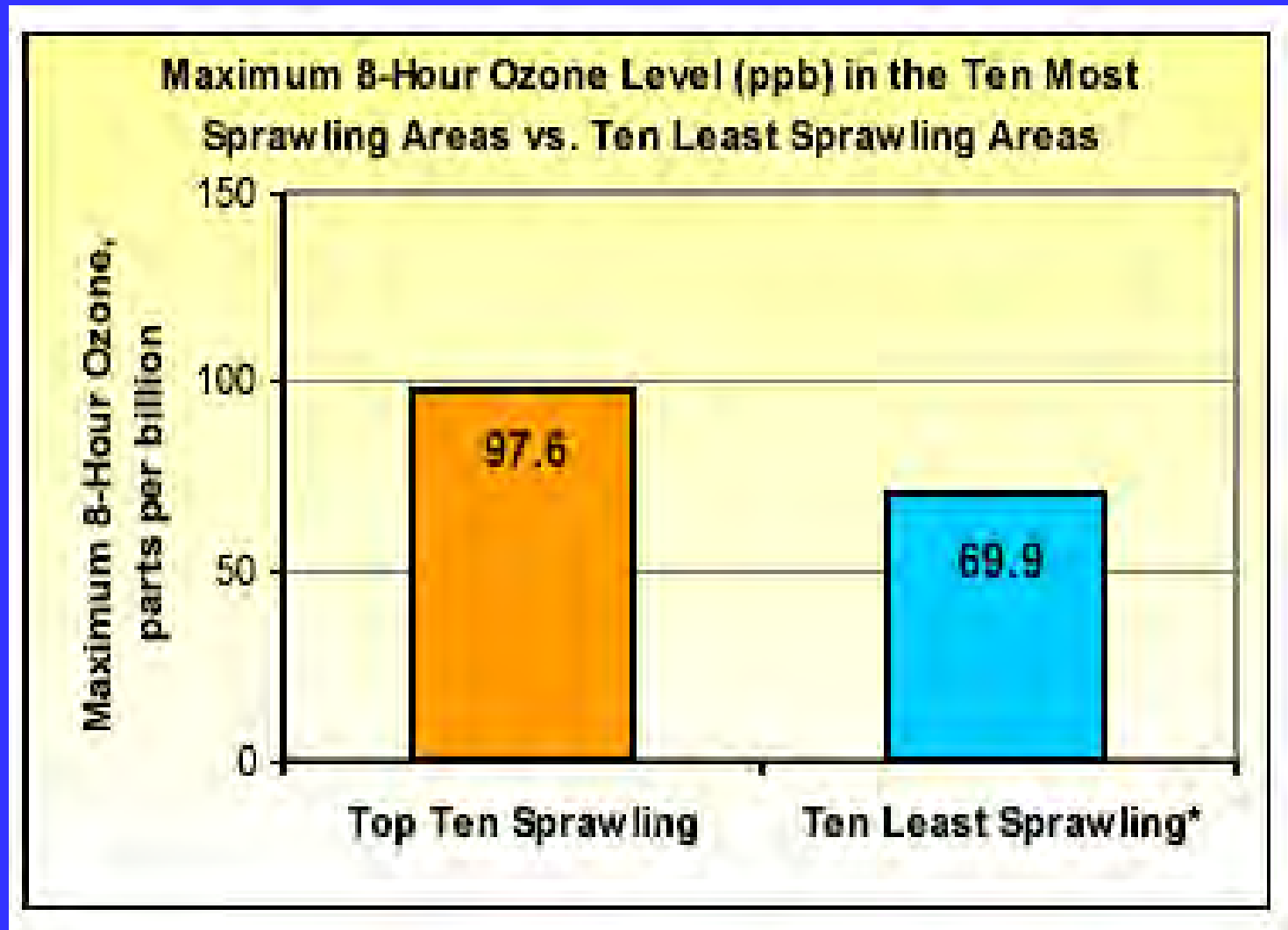
# Envisioning Change



# 25% Less VMT with Compact Development



# 30% Less Ozone with Compact Development



Our Patient Starts to bicycle 5 miles  
to the Transit Center 3 days per  
week

# The New Bicycle Commuter

- 30 minute bicycle trip burns 250 calories each way (for a 190 pound man)
- 3 days per week = 1500 calories per week, 78,000 calories/year.
- Converts to 22 pounds of body fat.

# The New Bicycle Commuter

## One year follow up

- Weight - 168 pounds (BMI 24.5)
- BP - 130/78
- Blood sugar – Normal
- Cholesterol – 175
- Energy level and Mood - Good

# The New Bicycle Commuter Financial

- Using only a small dose of cholesterol medication- Total medical cost \$35/month (\$4200 saving per year)
- Saves \$5,000 per year on car expenses

# Greenhouse Gas loading of the atmosphere:

Traveling just one mile

- Typical car: 450 grams
- Walking or bicycling: 1 gram

# One year of 3 day/week cycling

- Walking or cycling: 3 pounds per year
- Plus 2 day car and public transit GHG emissions



## PLANNING COMMUNITIES: WHAT HEALTH HAS TO DO WITH IT

*"Building a freeway to reduce traffic congestion is like loosening your belt to prevent obesity."—HALTER EULACH*

Television commercials remind us that high cholesterol comes from our diet and from our ancestors; but our community also helps determine how healthy we are. Without us realizing it, the buildings, streets, and open space that make up our communities – the built environment – shapes our lives, our health, our social relationships, and even influences our behavior.

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### HISTORY OF URBAN PLANNING AND HEALTH

The roots of modern land use planning grew out of concerns about the public's health. People living in 19th century cities lived in the midst of farm animals, butcher shops, tanneries, and industry with virtually no sewage or sanitation. Early land use and zoning measures were established at this time to protect people from contagious diseases such as tuberculosis and cholera, which were spread by sewage, contaminated water and air, and crowded, substandard housing. Early zoning measures are examples of early public health practice; keeping the most toxic land uses (slaughter houses and tanneries were commonly restricted) separate from housing. Otherwise, there were few limitations and communities were built with a mixture of closely-located functions, including homes, business, schools, transportation and manufacturing. Distances were short and people lived close to where they worked.<sup>1</sup>

Public health practitioners' role in land use and zoning was an effective response to the communicable disease epidemics of the 19th century. Since that time public health departments have continued to play a role in ensuring that housing and places of business are clean and free from disease, and in monitoring industry to

limit exposure to environmental contaminants. As the communicable diseases of the past have been contained, chronic diseases such as diabetes, heart disease, cancer, and asthma have emerged as the leading causes of sickness and death. Over the last half century, the focus of modern public health practice has shifted to reducing risk factors for chronic disease as well as reducing the incidence of traffic injuries, community violence, and disparities in the health status between people of different ethnicities and income levels. Today's public health strategies include improving the built environment along with other fundamental approaches such as increasing access to health care, providing community education, and advocating for policies that support a healthy lifestyle.



**Richard Joseph Jackson, MD MPH**

[Dickjackson@berkeley.edu](mailto:Dickjackson@berkeley.edu)

We owe our children a world that is at least as beautiful,  
healthful and diverse as the one we were given.

And, it is a about Happiness

# Reinventing Aging: Baby Boomers and Civic Engagement

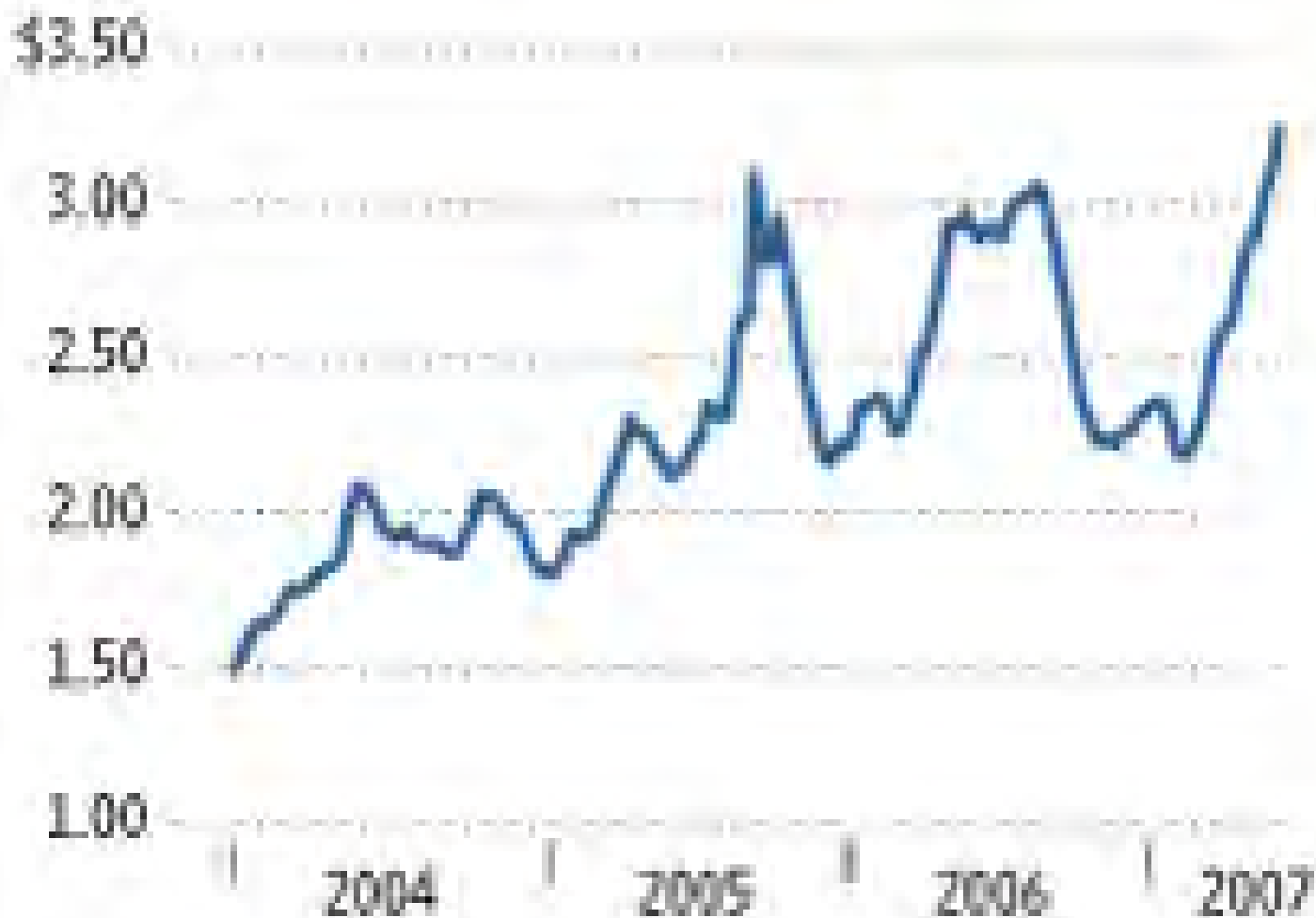
*November 28, 2007*  
*Pasadena*



**Richard Joseph Jackson,  
MD MPH**

[Dickjackson@berkeley.edu](mailto:Dickjackson@berkeley.edu)

## U.S. retail regular gasoline price per gallon:



US Energy  
Information  
Admin.



By BRIAN LIBBY

Joel Loveland and G. Z. Brown are self-described evangelists of natural light.

As directors of the Better Bricks Daylighting Labs, nonprofit centers devoted to helping architects maximize natural light in their buildings, Mr. Loveland and Mr. Brown consistently preach the benefits of the sun's illumination.

"Daylighting is as old as architecture itself," said Mr. Brown, who is also a professor of architecture at the University of Oregon. "But with the invention of efficient electric light, it's something we've gotten away from."

Until recently, the rationale for using daylight was predicated largely on economics and altruism: greater reliance on natural light reduces energy consumption and costs. Now, a new generation of research is providing additional justification, including improved human performance.

Among the most significant are two studies conducted by Heschong Mahone Group of Sacramento, Calif. One involving 20,000 students in California, Colorado and Massachusetts in 1998 and 2002 found that standardized test scores among comparable students could be as much as 26 percent higher when they attended classes in buildings illuminated primarily by natural lighting,

## Beyond the Bulbs: In Praise of Natural Light



Photographs by Larry Davis for The New York Times

Joel Loveland helps architects maximize natural lighting. He was a consultant on the design of the Pierce County Environmental Services Building in Washington, above.

affects humans on a biological level. The center has drawn from previous studies of the relationship between seasonal depression and natural light, particularly those of Dr. Alfred Lewy of Oregon Health Sciences University, to determine that human performance is improved by natural light. A comprehensive research study is due to be released this summer.

Electric illumination replicates light levels the human body needs to see, but for the rest of the body "it's ineffective compared to something as simple as waking up and looking out the window at the blue sky," Dr. Rea said.

variability in their view, easily provided by a window, to give the eyes and mind a rest.

A psychological element is also involved. "People like to know what's happening outside," said Mr. Loveland, a professor of architecture at the University of Washing-

**A move to light up your life, naturally, by architectural design.**

ings. Many school classrooms, for example, have been designed without windows, in some cases to eliminate distractions and in others to cut costs.

And when natural lighting is provided in office buildings, the coveted window space is often designated for a handful of executives, while most employees are forced to rely on glaring, flickering, buzzing light tubes hanging from the ceiling.

In his lectures, Mr. Loveland often cites a New Yorker magazine cartoon in which an employer touring a series of cubicles with a colleague explains that "dim fluorescent lighting is meant to emphasize a general absence of hope."

Still, architects seeking to bathe buildings in natural light can create as many problems as benefits. Simply adding windows is not necessarily the answer. "When we work on a project in the daylighting lab we often spend more time taking them out than putting them in," Mr. Loveland said. If a window is added to a space, the designer must determine how to balance the room's luminosity by spreading that light around.

Mr. Loveland calls architecture "a profession in denial" when it comes to evaluating how design will affect light levels. According to a study conducted by the power company PG&E of San Francisco, 90 percent of architects interviewed said they used daylight as a consistent design element. But fewer than 3 percent investigated the effects of different design decisions involving daylight.

To reverse that trend, Mr. Brown's and Mr. Loveland's laboratories in Portland and Seattle offer architects a variety of design tools. Some, like the heliodon, evaluate an existing design. Architectural models are placed on the heliodon, a rotating apparatus, to measure simulated light levels inside throughout the day and year.

But Mr. Brown stresses the importance of a series of formulas and calculations that help designers devise lighting solutions before their first blueprints are completed.

# Freightliner FL 70 Tank Truck

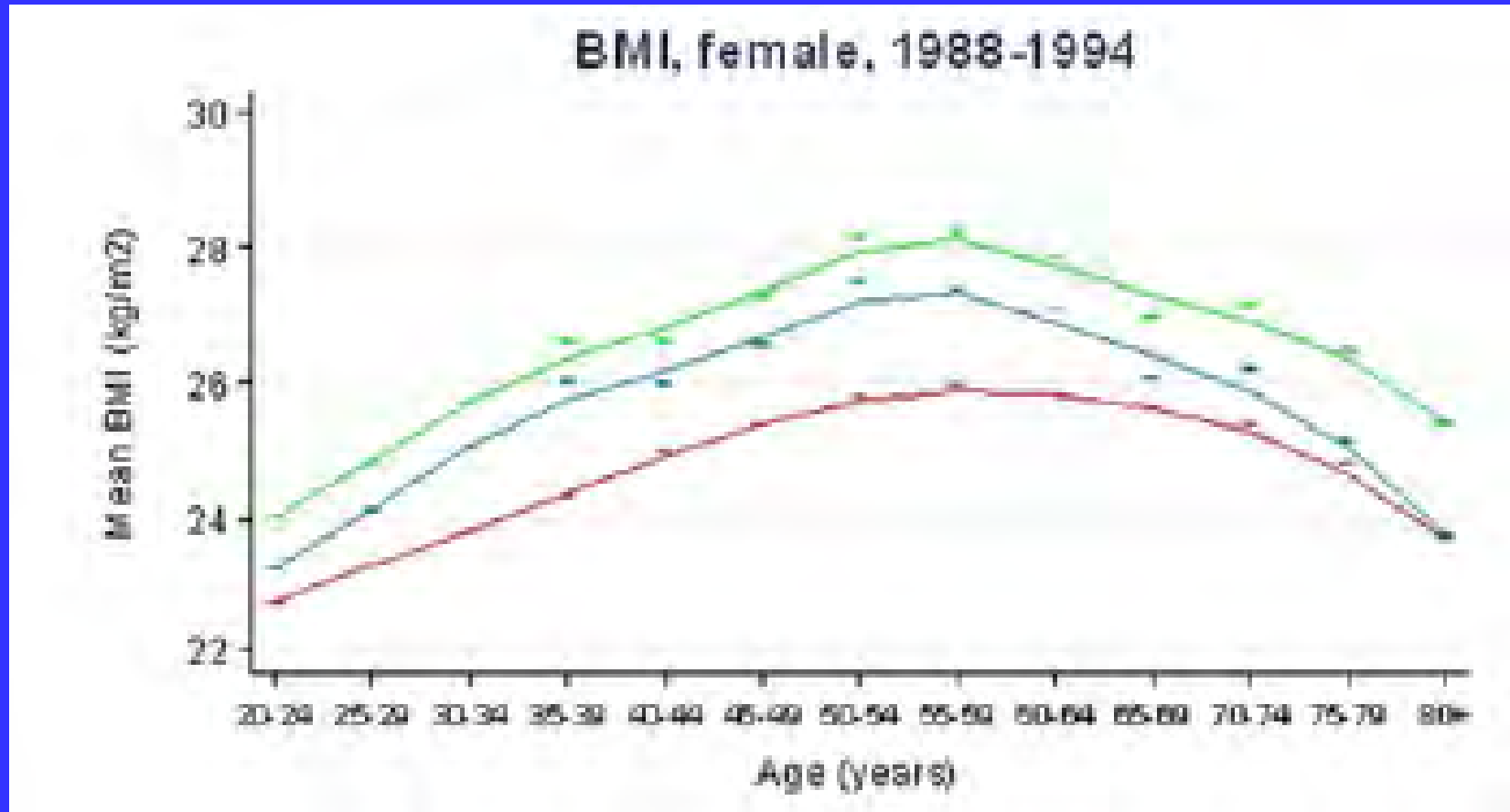


**Carries 2800 Gallons**

# July of 1999

- the Director of the Centers for Disease Control and Prevention (CDC) requested input from the 11 centers on an article for the Journal of the American Medical Association on the greatest health threats to the country in the 21<sup>st</sup> century.

# BMI US Females 1988-1994



**NHANES -- Measured**

**NHANES -- In person interview-- self-reported**

**BRFSS -- Telephone Interview**

## **Young, fat and facing liver disease**

**As obesity rates climb, fatty livers are emerging as a serious threat to children's health.**

By Karen Ravn, Special to The Times  
March 26, 2007

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It's often said, these days, that we're a nation of fatties. And, not coincidentally, we're also a nation of fatty livers.

Increasingly, millions of those livers belong to children — though most of them don't know it, and neither do their parents and doctors.

Usually, no symptoms show up until damage has been done, damage that may ultimately lead to cirrhosis of the liver, liver cancer and end-stage liver disease.

Until the 1990s, no one knew that fatty livers were a problem in children, and now, doctors say, the situation has become serious. "If you were to go into any large California high school with a couple thousand students and screen, you'd expect 200 children with fatty livers," says Dr. Jeffrey Schwimmer, director of the Fatty Liver Clinic at Rady Children's Hospital in San Diego and associate professor of pediatrics at UC San Diego.

Schwimmer was lead author of a study published in the journal *Pediatrics* in October 2006 that found evidence that nearly 10% of children between 2 and 19 years old in San Diego County have fatty livers. If that percentage holds throughout the U.S., 6.5 million children are affected.

The data show that fatty livers in children are highly correlated with weight. About 80% of kids with the condition are obese or overweight. Nearly 40% of obese children have fatty livers.

**“Nearly 40% of obese children have fatty livers.”**

# Freightliner FL 70 Tank Truck



**Carries 2800 Gallons**

# A Mythical 10 Year Old Child

Who lives one mile from School

He decides to walk to school every day for a year instead of getting a ride from mom

# Our Mythical 10 Year Old

- A one mile walk for an 86 pound boy burns 52 calories
- He walks 360 miles in the year
- He burns 18,720 calories in the year
  - Which converts to 5.34 pounds of body fat

Suppose every child walked one mile each way for a year

- 6 million school children in California – larger and smaller, nearer and further from school than our 10 year old – suppose every one of them walked
- How many pounds of body fat?
- 32,000,000 pounds

Suppose every California child gets  
a ride back and forth from mom

- 6 ounces of gasoline for each mile
- 360 trips a year
- 16 gallons of gasoline
- 6 million children do this
- 96 million gallons of gasoline

# How many 2800 Gallon Tank Truck Deliveries?



# How Many 2800 Gallon Tank Truck Deliveries?



34,285

# My 2006 Autumn Hike in New York State



**Brendan and Cheryl**

# My 2006 Autumn Hike in New York State



**We hiked along a hillside**

# My 2006 Autumn Hike in New York State



**We hiked by a pond**

Soon we came to the...

**The Meadows**

# The “Meadows” at the border of Harriman State Park, NY



# The “Meadows” at the border of Harriman State Park, NY



[illegible]

# Exercise in Healthy Places



- **Treatment for Depression—**
- **Exercise**
- **Sunlight**
- **Nature Contact**
- **The health need for places to walk**



**Elderly  
people**

# California Highway Patrol

- 1969
  - Licensed Drivers:  
11.4 million
  - Miles Driven:
    - 112 billion
  - CHP staffing: 5,802
- 2004
  - Licensed Drivers:  
22.6 million
  - Miles Driven:
    - 320 billion
  - CHP staffing: 7,291

<http://www.policeone.com/traffic-patrol/articles/125504/>

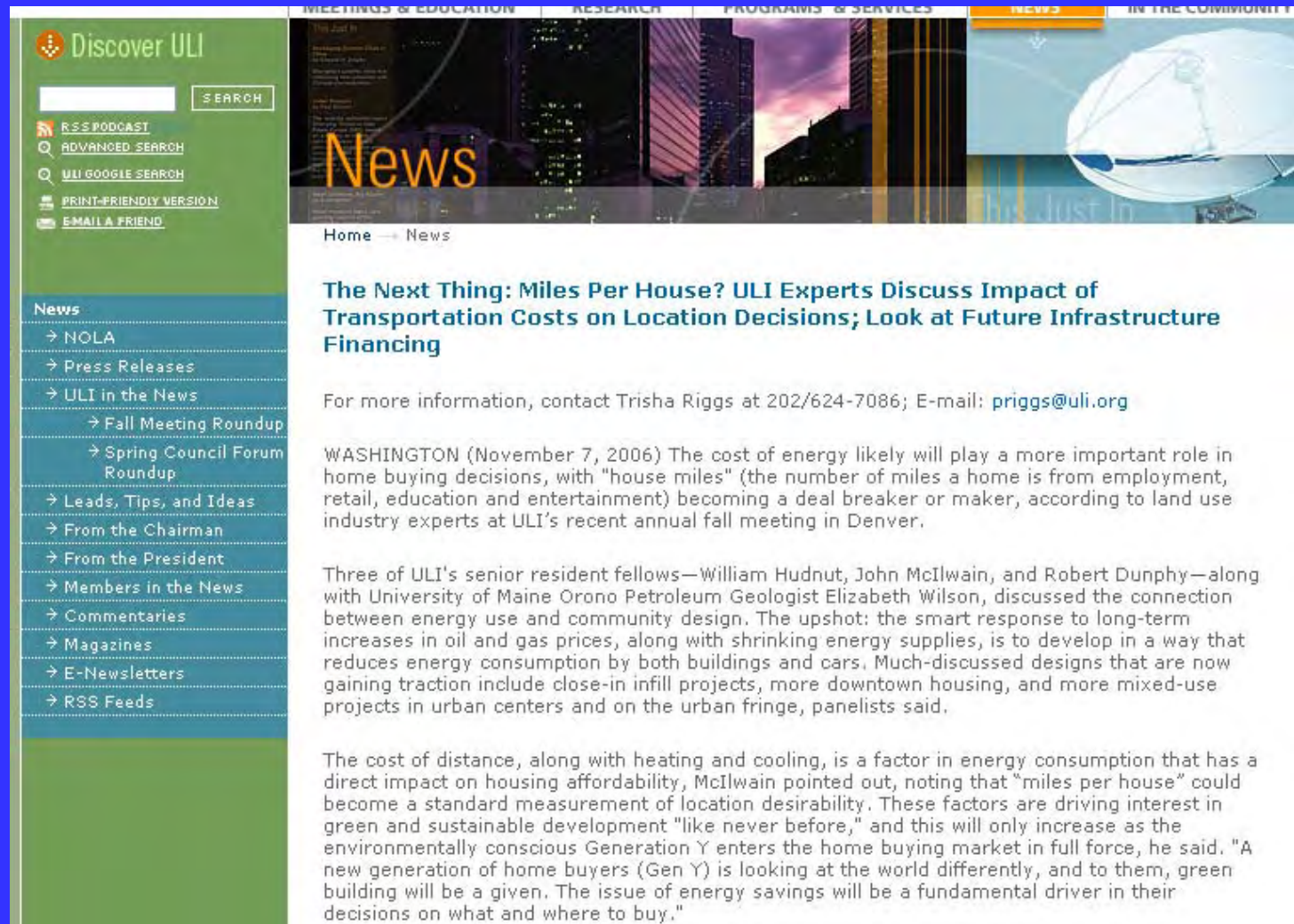
# California Highway Patrol

- 1969
  - One CHP officer per 2000 drivers
  - One CHP officer per 19,000 miles driven
- 2004
  - One CHP officer per 3100 drivers
  - Once CHP officer per 44,000 miles driven

<http://www.policeone.com/traffic-patrol/articles/125504/>

# The Next Thing: Miles Per House?

Miles Per House? ULI Experts Discuss Impact of Transportation Costs on Location Decisions; Look at Future Infrastructure Financing



The screenshot shows the ULI News website. The left sidebar contains a 'Discover ULI' section with a search bar and links for RSS Podcast, Advanced Search, ULI Google Search, Print-Friendly Version, and Email a Friend. Below this is a 'News' section with a list of links: NOLA, Press Releases, ULI in the News, Fall Meeting Roundup, Spring Council Forum Roundup, Leads, Tips, and Ideas, From the Chairman, From the President, Members in the News, Commentaries, Magazines, E-Newsletters, and RSS Feeds. The main content area features a large banner image with the word 'News' in orange. Below the banner is the article title 'The Next Thing: Miles Per House? ULI Experts Discuss Impact of Transportation Costs on Location Decisions; Look at Future Infrastructure Financing'. The article text discusses the impact of energy costs on housing affordability and the concept of 'miles per house'.

**The Next Thing: Miles Per House? ULI Experts Discuss Impact of Transportation Costs on Location Decisions; Look at Future Infrastructure Financing**

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WASHINGTON (November 7, 2006) The cost of energy likely will play a more important role in home buying decisions, with "house miles" (the number of miles a home is from employment, retail, education and entertainment) becoming a deal breaker or maker, according to land use industry experts at ULI's recent annual fall meeting in Denver.

Three of ULI's senior resident fellows—William Hudnut, John McIlwain, and Robert Dunphy—along with University of Maine Orono Petroleum Geologist Elizabeth Wilson, discussed the connection between energy use and community design. The upshot: the smart response to long-term increases in oil and gas prices, along with shrinking energy supplies, is to develop in a way that reduces energy consumption by both buildings and cars. Much-discussed designs that are now gaining traction include close-in infill projects, more downtown housing, and more mixed-use projects in urban centers and on the urban fringe, panelists said.

The cost of distance, along with heating and cooling, is a factor in energy consumption that has a direct impact on housing affordability, McIlwain pointed out, noting that "miles per house" could become a standard measurement of location desirability. These factors are driving interest in green and sustainable development "like never before," and this will only increase as the environmentally conscious Generation Y enters the home buying market in full force, he said. "A new generation of home buyers (Gen Y) is looking at the world differently, and to them, green building will be a given. The issue of energy savings will be a fundamental driver in their decisions on what and where to buy."

# Community Policing





# My Hike on Sunday

Eventually we must become  
dependent

# But Dependency is the danger

- Financial
- Drug or alcohol
- Energy
- Car

# “Supersizing” a fast-food meal – the real costs

- Paying 67 cents to supersize an order — 73% more calories for only 17% more money
- A Bargain!

# “Supersizing” a fast-food meal – the real costs

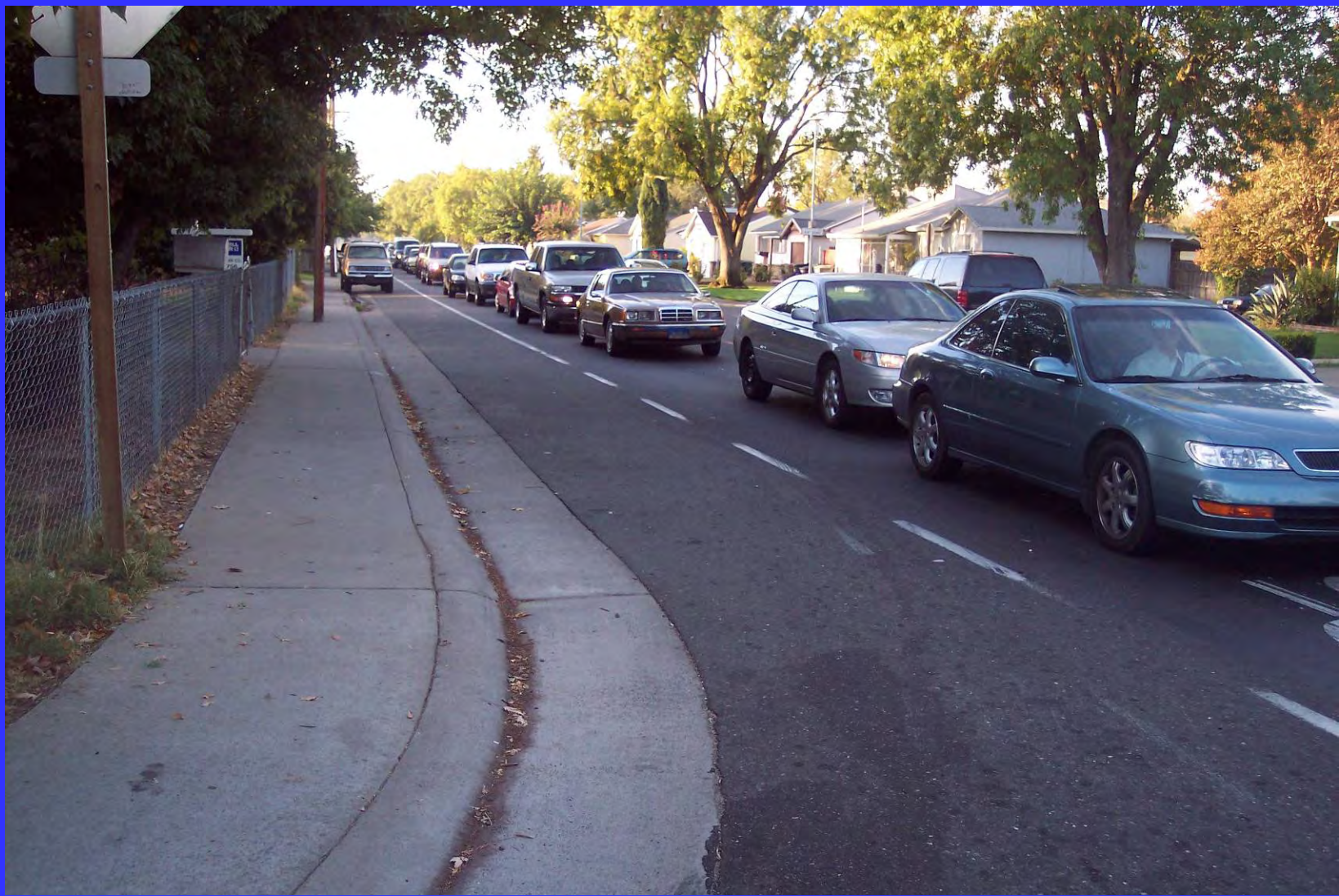
- Paying 67 cents to supersize an order — 73% more calories for 17% more money — adds an average of 36 grams of adipose tissue.
- The future medical costs for that “bargain” would be \$6.64 for an obese man and \$3.46 for an obese woman.

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# Suicide Rates in 2004

- age 65 and older
  - 14.3 per 100,000 people
- General Population
  - 11 per 100,000